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## THESIS

**JOINT STRATEGY AND STRATEGIC SEALIFT FOR THE  
NEXT CENTURY**

by

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March 1998

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**JOINT STRATEGY AND STRATEGIC SEALIFT FOR THE NEXT CENTURY**

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## ABSTRACT

The President's National Security Strategy calls for the U.S. military to "shape-respond-prepare" for a strategic environment that continues to advance U.S. interests. It also prescribes the necessity to move toward a more joint way of life. With increased emphasis on jointness, the Navy has made significant strides in becoming a partner with the other services. Not only are the services more joint, but so are the organizations participating in contractual agreements. One area where DoD and industry has increased their joint relationship is in the area of strategic sealift.

As the world's shipping industries have grown the U.S. industry has reduced by one third. This has presented DoD with a major dilemma. The current NSS calls for strategic sealift to support two simultaneous Major Regional Conflicts. The MSA of 1996 was passed by Congress to ensure supportability of U.S. forces overseas. VISA is an agreement to make intermodal shipping services and capacity available to DoD as required to support the emergency deployment and sustainment of U.S. military forces. It is accomplished by cooperation between DoD, DoT, and Industry. This research presents analysis of the current policies and sealift capabilities in support of the two MRC scenario.



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## I. INTRODUCTION

### A. BACKGROUND

Strategic sealift is categorized into two roles: surge sealift and sustainment sealift.

Surge sealift assets carry combat and combat support equipment from different ports of origin to the area of operations. After that initial delivery, sealift assets focus on sustaining operations by delivering food, ammunition, petroleum, and other critical support items.

During Desert Shield/Desert Storm (DS/DS), the Department of Defense (DoD) relied more on commercial shipping than on pure military assets to perform in both capacities: surge and sustainment. However, DoD is faced with several dilemmas. The first is DoD's requirement to support two Major Regional Contingencies as prescribed in the U.S. National Security Strategy. [Ref. 20] The second is the viability of the U.S. commercial shipping industry. Lastly, the Maritime Security Act of 1996, which is supposed to remedy the U.S. commercial shipping dilemma, is yet to prove itself in an actual war time contingency.

DoD's surge sealift fleet includes 95 ships, can carry more than 7 million square feet of cargo, and is required to be readied in 20 days. [Ref. 1, p.23] The largest of the surge sealift ships are operated by the Navy. However, the Ready Reserve Fleet (RRF) provides the majority of this capacity. This fleet is operated by the Maritime

Administration (MARAD) while inactive. The RRF provides supplemental shipping capacity during times of crisis.

The Navy's eight Fast Sealift Ships (FSS) comprise 20 percent of DoD's surge sealift capacity and can be activated within four days. FSS can hold both containers and roll-on/roll-off cargo while transiting at an average speed of 27 knots. During operations DS/DS, the Navy's FSS made 32 transits, while seven of the FSS transported over 13 percent of all unit equipment for the operation. As a result of intermodalism and the rise of container ships in the worldwide shipping industry, DoD began purchasing Large, Medium-Speed, Roll-on/Roll-off (LMSR) ships for surge sealift capacity. These vessels have almost twice the capacity of the FSS. Funding has been appropriated for 16 LMSRs, which will be added to the four day reduced operating status fleet.

As previously mentioned, the RRF is expected to carry much of DoD's combat cargo. The RRF includes 31 Roll-on/Roll-off ships (ROROs), which make up 40 percent of DoD's surge sealift capacity. Another 37 percent of DoD's surge sealift capacity includes breakbulk and barge carrying vessels and the remaining three percent includes special purpose vessels, such as auxiliary ships, tankers, and troop carriers.

In addition to increasing surge capacity through the LMSR program, DoD plans to use U.S. commercial container carriers to transport sustainment cargo during a crisis. Sustainment cargo could fit into standard 20' (TEU) and 40' (FEU) containers.

These plans raise concerns about the viability of the U.S. maritime industry. The past century has seen the U.S. commercial shipping industry take an elevator ride to the bottom. U.S. carriers had nearly 43 percent of the world market for ocean shipping trade

in 1950, compared to four percent in 1995. Because of stiff competition and the high costs of operating in the United States, many shippers have reflagged their ships to foreign countries. U.S. flagged vessels have fallen from over 2000 in the 1940's to only 309 in 1997.

As previously mentioned, the decline in the U.S. commercial shipping industry has posed a major dilemma for DoD. The current National Security Strategy (NSS) prescribes that the U.S. support two simultaneous Major Regional Conflicts (MRC), so DoD needs assistance from the civilian shipping industry to support forces in these conflicts. To ensure the availability of commercial carriers, DoD has turned to government legislation. DoD claims that sufficient U.S. flag ships are available to support sustainment operations for most contingencies.

The Merchant Marine Act of 1936 claimed that a merchant marine fleet was necessary for national defense and developing foreign commerce. It also allowed the government to requisition all U.S. flagged ships in war time.

In order to support the Merchant Marine Act of 1936, government legislation established the Sealift Readiness Program (SRP). The 1971 SRP was a shipping agreement in which U.S. flag carriers commit half of their cargo capacity to the program during wartime. In return, they receive operating subsidies and the opportunity to bid on peacetime military shipping contracts.

The Maritime Security Act of 1996 was signed into law by President Clinton on October 8, 1996. It continues the United States government's effort to satisfy the standards stipulated in the Merchant Marine Act of 1936. The Maritime Security Act

established the Maritime Security Program (MSP). This program contains two main provisions. First, the legislation replaces the Operating Differential Subsidy (ODS) Program with a new, more flexible, and less costly MSP. The ODS was a program in which funds were made available to compensate carriers for the cost differences between U.S. operators and their major competitors on designated trade routes. Secondly, the legislation replaces the SRP with the Emergency Preparedness Program, which led to the Voluntary Intermodal Sealift Agreement (VISA). VISA is an agreement to make intermodal shipping services and ships available to DoD as required to support the emergency deployment and sustainment of U.S. military forces.

## **B. OBJECTIVES**

The subject area is strategic sealift and issues of joint effectiveness in the President's current NSS. The objective is to discuss the joint DoD factors affecting strategic sealift, including the NSS, National Military Strategy (NMS), Quadrennial Defense Review (QDR), doctrine, and readiness goals and objectives. Additionally, the research will analyze strategic sealift assets, and joint issues and policy.

The primary objective is to determine if Navy, RRF, and commercial shipping industry assets are adequate to support two MRCs as prescribed in the NSS. Secondly, it will determine if the MSP and its derivative, VISA, are adequate government legislation to assist in the two MRC endeavor.

## **C. RESEARCH QUESTIONS**

### **1. Primary Question**

- Is their adequate jointness in the armed forces?
- Can strategic sealift assets (USN, RRF, U.S. flag commercial industry) support two MRCs?

### **2. Supporting Research Questions**

- How have defense transportation needs changed in the wake of a changing global political climate?
  - What sealift assets are in the U.S. Navy inventory?
  - How dependable is the RRF?
  - What is the status of the U.S. commercial shipping industry?
  - What role did Congressional and Executive mandates have in the fall of the U.S. commercial shipping industry?
- How much can DoD depend on the U.S. commercial shipping industry during a crisis?
  - Can government sealift programs increase strategic sealift capabilities?
  - What is the MSP?
  - What is VISA?
  - Will VISA perform as predicted?

- What are the advantages or disadvantages of the VISA?
- Is the NSS aligned with the appropriate threat?
- Does the VISA Venture scenario provide a good method for determining the success or failure of VISA?
  - What conclusions about the supportability of the two MRC scenario can be drawn from the VISA Venture data?
  - Is the JPAG effective?

#### **D. SCOPE, LIMITATIONS, ASSUMPTIONS**

This thesis will look at DoD's strategic sealift capabilities. The study will explore whether strategic sealift can support the two MRC scenario. More specifically, the thesis will: (1) review the NSS, Joint DoD issues, and readiness goals and objectives, (2) review strategic sealift assets and government legislation affecting strategic sealift, and (3) analyze the findings of the National Defense Panel, JPAG, and VISA Venture "war gaming" scenario. This thesis will conclude by summarizing the issues, drawing conclusions and making recommendations concerning the trends for current strategy, doctrine, and strategic sealift, and recommending further research.

Strategic sealift and the possibility of supporting only one MRC will not be covered in this thesis. The concept of outsourcing strategic sealift will not be covered in this thesis beyond the background of the commercial shipping industry and government legislation. Finally, this thesis will not review the Jones Act or any government legislation other than the Maritime Security Act of 1996.

## **E. SUMMARY**

This chapter described the role of surge and sustainment strategy as it pertains to strategic sealift. It also briefly addressed the capability of Navy sealift assets, the RRF, and the commercial shipping industry. This chapter also provided some background for the NSS and the two MRC scenario. Finally, the chapter discussed the Maritime Security Act of 1996.

Chapter II will provide specifics about doctrine and strategy, and readiness goals and objectives. Chapter III will review of Navy sealift assets, the RRF, and the commercial shipping industry while describing the impact and potential of the Maritime Security Act of 1996. Chapter IV will analyze joint strategy and war game scenarios aimed at VISA. Finally, Chapter V will conclude with a summary, conclusions and recommendations, and possible future research.



## **II. STRATEGY AND PLANNING**

### **A. INTRODUCTION**

Chapter II covers the various strategies that shape sealift requirements. This chapter discusses the President's National Security Strategy (NSS), the Secretary of Defense's (SECDEF) Quadrennial Defense Review (QDR), and the Chairman, Joint Chiefs of Staff's (CJCS) National Military Strategy (NMS). Additionally, this chapter summarizes an evaluation of these strategies that was conducted by a panel of retired flag officers; the evaluation of the National Defense Panel (NDP) will be compared to the President's NSS. The chapter then outlines the planning process and the tools utilized to meet the logistical goals of contingencies. The end of the chapter discusses the Mobility Requirements Study (MRS). DoD was directed by Congress to complete the MRS to support present military strategies and doctrine.

### **B. STRATEGY, DOCTRINE, AND PANEL FINDINGS**

#### **1. The National Security Strategy (NSS)**

The NSS is the President's document which focuses on enhancing U.S. security with military forces that are ready and prepared to fight, win, and present effective representation abroad. Additionally, the document tries to bolster America's economic revitalization and promote democracy abroad. The following is an overview of the NSS's six strategic priorities.

The NSS stresses the necessity to foster a peaceful, undivided and democratic Europe. When Europe prospered economically as a continent in the past, so too did the United States. This is based on the idea that America needs to enlarge and adapt NATO to new demands -- foster and build a NATO-Russia partnership, strengthen allied partnerships for peace, and enhance a NATO-Ukraine relationship.

The NSS stresses the need for the U.S. to continue to make progress in creating a stable and prosperous Asia Pacific community. The President feels that this can be accomplished by reinforcing close ties to Japan, Republic of Korea, and Australia. “The U.S. must remain alert to any potential aggression from North Korea against South Korea.” [Ref. 20, p.3] Emphasis is placed on sustainment of economic growth fueled by free and open markets, and integration through the Asia Pacific Economic Cooperation Forum. In addition, the U.S. must continue to pursue deeper dialogue with China.

The third strategic priority states that America must “continue to increase U.S. exports. The primary means of achieving this is by tearing down trade barriers, especially in Asia and Latin America.” [Ref. 20, p.5] Allowing countries to produce and export what they produce best will strengthen those economies. If the U.S. allows allied economies to falter, they will affect the U.S. economy in negative ways. Exporting nations experiencing economic downturns will be forced to lower their prices, which will, in turn, undermine domestic producers in the U.S.

The U.S. military must first and foremost “remain a force of peace.” [Ref. 20, p.6] The U.S. must take reasonable risks to avoid being drawn into larger conflicts. Current NSS areas of focus are, “Middle East, Haiti, Northern Ireland, Central Africa, and

Bosnia.” [Ref. 20, p.7] Additionally, the U.S. must counter growing dangers to national security. The primary focus should be aimed at weapons of mass destruction, terrorism, drugs and international crime.

The U.S. must have within its possession, the military and diplomatic tools to accomplish the strategy, as well as ensure a budget for continued equipment modernization in selective areas. A “continued commitment of 1% of the discretionary budget” [Ref. 20, p.10] for U.S. diplomacy is needed including a continual re-examination of the national security posture. This strategy reinforces U.S. resolve to continue to influence its foreign policy goals through diplomatic and, if necessary, by force. DoD has derived its policies from this strategy, reinforcing the need to meet a two MRC scenario through joint operations and adequate U.S. flagged sealift assets.

## **2. Quadrennial Defense Review (QDR) - 1997**

The QDR is the SECDEF’s message on the new threats and dangers facing the nation’s Armed Forces. He states in his review that “the threats and dangers are becoming increasingly harder to define and difficult to track.” [Ref. 21, p.1] The Secretary feels that one of his focal goals will be to “figure out the threats and develop the appropriate strategy and programs to counter those threats.” [Ref. 21, p.2] In doing so, the SECDEF feels that the military must acquire the most modern technology and newest systems. This is essential to protect our national security interests in the future.

The QDR examines national security threats, risks, and opportunities. From this, a defense strategy is developed to deal with the world of today and tomorrow, identify the military capabilities needed, and define programs and policies needed to support them.

The SECDEF outlines a strategy which focuses on the three elements stated in the President's NSS: "Shape-Respond-Prepare." [Ref. 21, p.2] In other words, shape the strategic environment to advance U.S. interests, respond to the full spectrum of threats, and prepare now for the threat of tomorrow and beyond. The U.S. must continue to remain engaged with the world diplomatically, economically, and militarily.

As stated in the CJCS's Joint Vision 2010, fundamentals of military power are: "Quality people, ready forces, superior organizations, doctrine and technology." [Ref. 22, p.4] The QDR, agreeing with the CJCS's assessment, looked at three paths the strategy could take: "1. Focus on current dangers/opportunities. 2. Focus more on future dangers/opportunities. 3. Balance between the present and the future." [Ref. 21, p.3] Through balance, the strategy will retain sufficient forces to sustain global leadership. Additionally, the U.S. must invest in the "future force" [Ref. 21, p.8] with a focused modernization plan, re-allocate resources/priorities, trim current forces, and invest in joint force capabilities covered in Joint Vision 2010.

On a final note, the SECDEF stresses that plans must be fiscally responsible, and emphasizes the need to restructure and streamline processes, and out-source acquisition reform. In this manner the SECDEF seems to preach "do more with less." This can be translated to cost reduction, reduction in force numbers, reduced infrastructure, and increased joint operations.

### **3. The National Military Strategy (NMS)**

The NMS provides advice from the CJCS, including the Joint Chiefs of Staff and the Combatant Commanders “on the strategic direction of the Armed Forces over a time period of three to five years.” [Ref. 19, p.2] In formulating the NMS, the CJCS derived his document from the President’s NSS and from SECDEF’s QDR.

In the NSS, the President introduced a strategic approach that focused on issues of “shape, respond and prepare.” [Ref. 21, p.2] The NMS, derived from the NSS and the QDR, also focuses on those issues. The NMS builds on the premise that the United States will remain “globally engaged to shape the international environment and create conditions favorable to U.S. interests and global security.” [Ref. 19, p.2] It emphasizes that our Armed Forces must respond to the full spectrum of crises in order to protect our national interests. It further stipulates that as the Armed Forces pursue shaping and response issues, they must also prepare for an uncertain future.

The National Military Objectives, as stated by the NMS, are to “defend and protect U.S. national interests, defeat adversaries, and to promote peace and stability when necessary.” [Ref. 19, p.3] The military objective coincides with that which the Chairman stated as the core competence of the Armed Forces; he stated quite simply, “We fight.” [Ref. 19, p.1] Furthermore, the Armed Forces will be used to help shape the international environment and be prepared to respond to the full spectrum of crises.

The U.S. Armed Forces help shape the international environment through “deterrence, peacetime engagement activities, and active participation and leadership in alliances.” [Ref. 19, p.4] Critical to deterrence are the military’s conventional warfighting

capabilities and its nuclear forces. Deterrence rests on a potential adversary's perception of U.S. military capabilities and commitments. These are demonstrated by the U.S.'s ability to bring decisive military power to bear, and by clear communication of intentions. Engagement activities, including information sharing and contacts between the U.S. military and the militaries of other nations, "promote trust and confidence and encourage measures that increase U.S. security and that of our allies, partners, and friends." [Ref. 19, p.2] The CJCS feels that increasing understanding and reducing uncertainty contributes to "building constructive security relationships, helps to promote the development of democratic institutions, and helps keep some countries from becoming adversaries tomorrow." [Ref. 19, p.6]

NMS stresses that the U.S. military will be called upon to respond to crises across the full range of military operations -- from humanitarian assistance, to fighting and winning major theater wars (MTW), and conducting concurrent smaller-scale contingencies.

Our demonstrated ability to rapidly respond and to decisively resolve crises provides the most effective deterrent and sets the stage for future operations if force must be used. Should deterrence fail, it is imperative that the U.S. be able to defeat aggression of any kind. [Ref. 19, p.2]

Especially important is the capability to "deter or defeat nearly simultaneous large-scale, cross-border aggression in two distant theaters in overlapping time frames, preferably in concert with allies." [Ref. 19, p.4] The ability to rapidly defeat initial enemy advances short of their objectives in two theaters, in close succession, reassures allies and ensures the protection of our worldwide interests. Case in point; during the Gulf War

rumors circulated on some news shows that North Korea might invade South Korea during a time when so many U.S. forces were occupied in the Arabian Gulf. The main question that was raised was: would the U.S. be able to remain committed to the Iraqi threat while preventing an invasion of South Korea? This was a question for which U.S. leaders did not have an answer.

As the U.S. moves into the next century, however, it is imperative that it maintains its military superiority. The NMS calls for a “transformation of current doctrine and organizations and a stabilized investment program in robust modernization that exploits the Revolution in Military Affairs (RMA).” [Ref. 19, p.6]

The NMS describes four strategic concepts that govern the use of U.S. forces to meet the demands of the strategic environment: strategic agility, overseas presence, power projection, and decisive force. Strategic agility “is the timely concentration, employment and sustainment of U.S. military power anywhere, and at a speed and tempo that our adversaries cannot match.” [Ref. 19, p.7] That point is an important hedge against the uncertainty facing the U.S. It should allow the U.S. to conduct multiple missions across the full range of military operations, in geographically separated regions of the world. “Overseas presence is the visible posture of U.S. stability, to help prevent conflict, and ensure the protection of U.S. interests.” [Ref. 19, p.7] An overseas presence demonstrates the U.S. determination to defend itself, its allies and friendly interests, while ensuring the U.S.’s ability to rapidly concentrate combat power in the event of crisis. “Power projection is the ability to rapidly and effectively deploy and sustain U.S. military power in and from multiple, dispersed locations until conflict resolution.” [Ref. 19, p.7]

Power projection provides the U.S. with flexibility to respond swiftly to crises with military units that can be adapted rapidly to the environment in which they must operate, and if necessary, fight their way into a non-permissive theater. “Decisive force is the commitment of sufficient military power to overwhelm an adversary, establish new military conditions, and achieve a political resolution favorable to U.S. national interests.” [Ref. 19, p.8] Together, these four strategic concepts emphasize that America’s military must be able to employ the right mix of forces and capabilities to provide the decisive advantage in any operation. Or in logistics lingo: get the right amount of stuff to the right place, at the right time. Section C of this chapter will provide the methods by which DoD determines the who, what, when, and how of logistics.

#### **4. The National Defense Panel (NDP)**

The NDP’s Executive Summary notes that, “Only one thing is certain: the greatest danger lies in an unwillingness or an inability to change our security posture in time to meet the challenges of the next century.” [Ref. 23, p.2] Some of the most important changes proposed by the NDP are listed below.

The two nearly simultaneous MRC scenarios are events not likely to occur. “A significant share of today’s Defense Department’s resources is focused on the unlikely contingency that two major wars will occur at almost the same time.” [Ref. 23, p.3] The panel views this two-military-theater-of-war construct, in reality, as a force-sizing function. The panel views the two MRC scenario as a doctrine that helps justify a larger force in the post-cold-war-era.

The NDP addressed a need to meet a wider variety of challenges. "We must be able to project military power and conduct combat operations into areas where we may not have forward-deployed forces or forward bases." [Ref. 23, p.4] The nation should anticipate an increase in transitional threats. As recently stated by Secretary of Defense Cohen, "the proliferation of nuclear, chemical, and biological weapons and their delivery means will pose a serious threat to our homeland and our forces overseas." [Ref. 23, p.3]

Developing an adequate defensive structure at home is crucial to the safety of U.S. citizens and the well-being of its communities. One of the salient features of U.S. security between the years 2010 through 2020 will be a much larger role for domestic defense within the borders of the Continental United States than that which exists today.

With regard to U.S. information technology superiority, the panel hints of a RMA. The country is "on the cusp of a military revolution stimulated by rapid advances in information and information-related technologies." [Ref. 23, p.16] The U.S. will need to integrate existing and new information systems while exploiting commercial technology. The U.S. must also have effective defensive and offensive information capabilities. The panel stresses that there will be a need to recognize that the U.S. lead in space will not go unchallenged. The use of space as a major element of national power and security necessitate the coordination of the civil, commercial, and national security aspects of the outer limits of space.

The panel feels that force capabilities will have to become more "joint" in nature while reducing the logistical and organic transportation footprints. "The U.S. armed forces will require greater mobility, precision, speed, stealth, and strike ranges while the

armed forces sharply reduces its logistics footprint.” [Ref. 23, p.42] One of the reasons that the NDP feels that DoD will be required to reduce its infrastructure is to enable a shift in spending for acquisition and procurement. The NDP further predicts that all operations will be increasingly joint, combined, and interagency. Furthermore, reserve components will need to be fully integrated with active forces.

There will be a need for a “transformation strategy.” Changing an organization is the most time consuming and difficult of tasks to accomplish. The panel recognized that “transformation will take dedication, commitment and a willingness to put talented people, money, resources, and structure behind a process designed to foster change.” [Ref. 23, p.6] Greater emphasis will have to be placed on experimenting with a variety of military systems, operational concepts, and force structures.

The panel recommends the establishment of an Americas Command with a primary mission of safeguarding the U.S. and the Western Hemisphere, and shifting information technologies to Space Command. There will be a need to provide industry with incentives to maintain technological superiority and to shift the acquisition process from being reactive to proactive. Finally, the panel recommends reducing base installations: eliminate base housing and commissaries, and supplement military pay to offset the loss. The panel argues that this would reduce infrastructure costs while increasing benefits to service members.

The Maritime Security Act (MSA) of 1996 is a program that supports the NDP findings. It allows for a reduced logistical footprint while increasing jointness. The MSA

contributes to increased jointness by reducing friction between the services. Friction is defined as who gets what at which time from what Navy organic sealift asset.

## **5. Comparison of the NSS and NDP**

The above sections covered the key recommendations for change in the NSS, QDR, NMS, and the NDP. This section will examine the strengths and probable short comings of the NSS and the NDP. The NMS and QDR, for the most part, will be excluded because they are derived from the NSS.

Arguably, the strongest point of the NSS is that it clearly lists mission objectives, provides a “forward” presence to serve as a deterrent, and a “quick” strike in the event of hostilities. The Joint Publications, which have been derived from the NSS and subsequently the NMS, have established a “unity of effort” or “jointness” in dealing with combatant and non-combatant missions. The NMS’s objectives for the armed forces are to promote stability and thwart aggression. The strategic concepts are to provide an overseas presence and to project power.

Joint Publication One notes, “National Security rests on the concept of deterrence; demonstrating national resolve and maintaining the ability to deal successfully with threats.” [Ref. 27, p.3] The concept of “Forward from the Sea,” an updated version of the 1992 doctrine, further emphasizes that “forward” notion within the joint Navy and Marine Corps concept. Forward deployed vessels contribute to jointness between Navy and Marine Corps assets, and provide faster response times and a plausible deterrent.

The NSS's potential weakness is that it tends to be a Euro-Centric document. However, a Euro-Centric focus may not be inappropriate. In his book *Beyond Peace*, former president Richard Nixon argues,

Europe is just as important to the U.S. as ever. We cannot afford to neglect a region with 345 million people and a GNP of \$7 trillion. Its political stability, its economic health, our access to its markets, and the character of its relations with the rest of the world are all vital American interests. [Ref. 24, p.36]

Another perceived weakness is that the NSS tends to focus on the present and not the future possible threats to the U.S. and its allies. That creates a problem with technological advances in the military's legacy combat and information systems. Legacy systems refer to the current hardware, software and information systems used by the military. Only so much can be done to update software and maintain hardware at peak performance. Furthermore, the continued policy of the "forward" presence, which was noted earlier as a strong point, is a serious financial drain on the Operation and Maintenance portion of DoD's budget simply because it costs money to keep a battle group afloat in far off locations of the world.

Finally, the strategy fails to address the continually growing entitlement budget; entitlements grow at the expense of a continually shrinking discretionary budget. This trend began in 1980 and continues into our current fiscal year. With a continually shrinking budget, the current NSS will not be financially viable in the near future. Political author and historian, Paul Bracken, focused on several flaws to the current NSS.

Short term concerns will shape the next military in the context of today's problems and issues. Tight budgets allow planners to take little risk in developing new technologies, thus, force improvement is marginal, not

revolutionary. A lack of improvement in forces, technology and operational concepts will make U.S. forces irrelevant when new peer competitors arise. [Ref. 23, p.78]

The NDP proposal has many strengths. While the key differences of the NSS and the NDP findings were discussed earlier in this chapter, the areas of greatest difference between the two documents was emphasized. This section will focus on the strong points in the NDP findings.

Throughout the entire NDP document, the panel focused on the future. A quote from the summary notes that “the United States needs to launch a transformation strategy now that will enable it to meet a range of security challenges in 2010 to 2020.” [Ref. 23, p.5] It can be argued that the panel is correct in this assumption. If the military is to maintain a technological advantage, it must be forward thinking. In his article, Paul Bracken provides the reader with a realist’s viewpoint on this issue. Bracken “...exhorts the U.S. Defense establishment not to neglect the long range strategic planning and the new competitors, strategies and operational concepts that will be changed 25 years from now.” [Ref. 25, p.163] Both the NDP and Paul Bracken seem to be preaching similar themes. The point of transforming into a forward looking military is well stated by both the NDP and Paul Bracken, and represents one of the strongest issues raised by the NDP.

There is, however, one weak spot within the NDP proposal. The NDP proposes “transforming” the military establishment. By “transformation” they mean change and changing an organization is the most difficult of undertakings. Additionally, the NDP proposes slow and continual change. It will be difficult to properly implement the change process in an organization with four branches of armed forces, each of which has its own

culture. Stretching out the change process will only contribute to friction within the organization and favor of the status quo; The “we’ve always done it that way” mentality.

The NDP proposal also supports increased jointness within the services. The NDP proposes more jointness by reducing overseas and Continental United States (CONUS) infrastructure and consolidating both and personnel stationing from various branches of service with others who have the same mission and job classification. The NDP also proposes increased jointness with the reserve forces. The NDP noted that the Army has had considerable difficulty integrating its reserve assets and active components. The NDP proposes increased jointness for inter-service, as well as intra-service components.

The changes to strategy proposed by the NDP have far reaching implications. For instance, they espouse the need for an even greater increase in jointness while reducing the logistical footprint. Future chapters will examine the issues of jointness with regards to current policy and look at sealift programs that contribute to reducing organic sealift assets.

### **C. PLANNING**

Now that the various levels of strategy have been examined, this section will briefly outline the methods by which these strategies are translated into mission requirements of contingencies. At the national level, the SECDEF and the CJCS are pivotal in translating national objectives into definitive planning guidance for the combatant commanders. The Service Chiefs and their staffs are also involved in the

process, both as contributors to the joint planning guidance and in deriving service component plans that provide the trained and equipped forces to support that guidance.

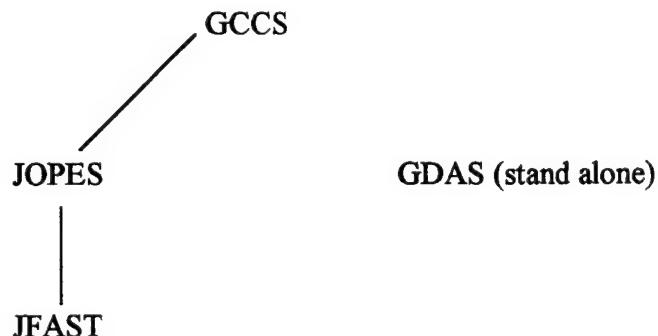
The Global Command and Control System (GCCS) was developed to replace the Worldwide Military Command and Control System (WWMCCS) and the Command, Control, Communications, Computers, and Intelligence (C4I) systems and applications. GCCS, which continues to evolve, is a single, global C4I system to support the war fighter, whether from a foxhole or from a CINC's command post. [Ref. 26, p.8]

A major component of the initial GCCS application environment is the Joint Operational Planning and Execution System (JOPES) which is migrated, translated, and developed from legacy and prototype subsystems to run on the GCCS hardware.

JOPES is the integrated, joint, conventional command and control system used by the Joint Planning and Execution Community (JPEC) to conduct joint planning, execution, and monitoring activities. JOPES supports senior level decision makers and their staffs at the NCS level and throughout the JPEC (The Joint Planning Advisory Group also utilizes JOPES in their quarterly planning sessions). Combatant commanders use JOPES to determine the best Course of Action (COA) to accomplish assigned tasks and direct the actions necessary to accomplish the mission. JOPES is a system that includes people, procedures, policies, communications, and supporting Information Systems (IS) software. JOPES is not a single application; it is a set of applications that can be used independently, but interact with a shared database. One subsystem specifically relating to sealift is the Joint Flow and Analysis System for Transportation (JFAST).

JFAST is a high speed PC-based analytical simulation tool for estimating the resources required to transport military forces (including cargo, personnel, and their

sustainment) during various scenarios. “The resource of time is selected as a closure estimation: when the forces will arrive in theater.” [Ref. 26, p.13] JFAST presents graphic and tabular output showing the impact upon the transportation resources, vehicles, and ports used during the simulation. An Operational Plan (OPLAN) or exercise Time-Phased Force Deployment Data (TPFDD) may identify where and when the military forces are to be deployed. This output data can also be created by an analyst using the JFAST notional requirements generator, which takes division or brigade level ground units and squadron level air units, and generates detailed company and detachment level TPFDD deployments. JFAST run time is typically less than one hour, depending upon the force size. However, JFAST has been known to leave residual sealift in some scenarios that must be transferred to a contingency area. To ensure that residual sealift gets to an area of operations, TRANSCOM utilizes other software, known as the Global Deployment Analysis System (GDAS). The relationship is shown in Figure 2-1.



**Figure 2-1 GCCS**

GDAS is a software package that analyzes transportation needs for large or small scale DoD deployments including mode planning, port selection, routing, scheduling, and simulation. GDAS incorporates a worldwide transportation network and schedules

movements from CONUS origins to theater destinations using intermodal, multi-theater transport by air, land, and sea. “GDAS components include an integrated database, query capability, world-map display, chart graphics, scheduling, simulation modeling, analysis tools, and repeating capabilities.” [Ref. 18] Detailed analysis features include tracking individual ship and aircraft locations, establishing shortest path routing with node constraints for all modes, incorporating port facility throughput limitations with queuing, detailing integrated air/sea/motor/rail transportation modes, and staging time-phased movements at intermediate ports.

#### **D. MOBILITY REQUIREMENTS STUDY (MRS)**

In 1991, Congress directed DoD to determine future mobility requirements for the Armed Forces and to develop an integrated plan to meet those requirements as set forth in Section 909 National Defense Authorization Act for FY 1991. [Ref. 29, p.ES1] MRS considered potential threats, warning time, allied participation, overseas bases, and availability of commercial shipping to determine the mobility requirements and develop the integrated plan. Additional considerations included in the study were preserving U.S. commercial shipping capability, defense budget pressures, and lessons learned from the Persian Gulf War.

In order to determine the requirement, DoD had to identify the threat. The U.S. faces a changing global environment with the defense posture focused at the regional level. A regional conflict requires a quick and effective response to unpredictable challenges. However, it is anticipated that the regional threats of the twenty-first century possess

modern air defenses, chemical weapons, and ballistic and cruise missiles. Thus, “future U.S. forces will meet the challenge presented by the twenty-first century through increased flexibility in planning, training, and employment, provided they have the capability to deploy to an area of potential crisis in sufficient time.” [Ref. 29, p.ES1]

The NMS requires that the U.S. deploy a decisive force and sustain it in parts of the world where adequate pre-positioned equipment and bases may not be available. As previously discussed, the NMS requires the U.S. to support two simultaneous major regional conflicts. The exact location of tomorrow’s conflicts is unknown. However, it is certain that the U.S. response will require more capability than the U.S. possess today. So, “to support national interests, deployment capability must increase through expanded investment in sealift, pre-positioning, and transportation infrastructure in the U.S. and in sustained investment in airlift.” [Ref. 29, p.ES2]

Several possible threats were reviewed during MRS. DoD analyzed logistics and warfighting aspects of potential regional conflicts set in a 1999 time-frame. DoD reviewed the following potential conflict areas in the specified 1999 time-frame (1) MRC Persian Gulf (2) MRC Korean Peninsula (3) MRC Europe (4) MRC Southeast Asia (5) MRC Western Hemisphere and (6) two simultaneous MRCs. [Ref. 29, p.2]

The mobility requirement used was derived from the Persian Gulf scenario because the capability required to handle the Persian Gulf conflict represents other MRCs. The mobility requirement accepted no more than a moderate risk for attaining U.S. objectives. Moderate risk is defined as the tradeoff between “cost and the proposed programs that fall short of meeting the requirement.” [Ref. 29, p.I2] Unified Commanders usually base

decisions on a low risk requirement, which can significantly increase the requirement for mobility assets. Additionally, current U.S. forces cannot handle a simultaneous MRC at the moderate risk capability level. However, substantial requisitioning of commercial shipping through government sealift programs, and full activation of CRAF, reduces the risk to a moderate level. [Ref. 29, p.ES5]

To meet the mobility requirement at a moderate risk, DoD developed an integrated mobility plan through the normal programming, budgeting, and acquisition channels. The plan included acquiring additional sealift capacity; twenty LMSRs needed to be added to sealift capacity through conversion and new construction. The plan also included expanding the RRF to 142 ships and continuing to modernize the RRF to include a fleet capable of deploying in eight weeks. Other components of the plan include considering new concepts that would provide sealift capacity at lower costs, continuing the C-17 program, and improving the U.S. transportation capability to move combat and support equipment from their peacetime locations to points of embarkation.

During the analysis several key factors emerged that directly related to U.S. success. The first factor was the U.S. strategic orientation; this includes alliance arrangements with other diplomatic countries, U.S. ability to maintain military bases on foreign soil and establish a forward presence, and adequate pre-positioning alternatives of military equipment. The second factor was U.S. speed in reacting to intelligence indications of aggression, including access to Civil Reserve Airlift Fleet (CRAF) and U.S. and allied shipping. With regards to DoD access to U.S. shipping, the MSA of 1996 will be discussed in Chapter III. The third factor was capability of allied forces and support.

The last factor was the capability of enemy forces and concept of operations employed by the enemy. [Ref. 29, p.ES3]

#### **E. SUMMARY**

This chapter examined the major contributors and the documents that mold U.S. military strategy. This chapter also outlined the planning process and computer systems that contribute to the joint planning process. The NSS, QDR, and the NMS emphasized shaping, responding, and preparing to address the challenges and opportunities that will confront the U.S. now, as well as those that await the U.S. in the next century. Working with allies, partners, and friends, the U.S. military will promote peace in an increasingly complex and potentially more dangerous world. The summarized strategies seek to ensure that the U.S. military will remain capable of performing whatever tasks they are called upon to perform around the world in the years ahead. Finally, this chapter examined the MRS, and the study's analysis of current U.S. forces, specifically sealift requirements, to meet the two MRC scenarios outlined in the reviewed strategies.

### **III. STRATEGIC SEALIFT AND LEGISLATION**

#### **A. INTRODUCTION**

This chapter discusses strategic sealift for DoD. Specifically, it will address U.S. Navy assets, the Ready Reserve Force (RRF), and the commercial shipping industry. Also this chapter will address the specifics of the Maritime Security Act of 1996, including the Maritime Security Program (MSP) and the Voluntary Intermodal Sealift Agreement (VISA).

Strategic sealift is categorized into two roles: surge sealift and sustainment sealift. Surge sealift assets carry combat and support equipment from different ports of origin to the area of operation. After the initial delivery, sealift assets focus on sustaining operations with food, ammunition, petroleum, and other critical support items.

During the Persian Gulf War, DoD relied heavily on the commercial shipping industry to perform in both capacities, surge and sustainment, after the RRF failed to meet timely readiness goals. However, DoD is faced with a dilemma. U.S. commercial shipping assets may not be available to perform in the surge capacity and deliver initial combat forces. DoD planners maintain that military ships will be needed to fill that role.

In the meantime, DoD is scrambling to maintain readiness and meet the requirements of the National Security Strategy (NSS). DoD is purchasing 19 Large, Medium Speed, Roll-on/Roll-off (LMSR) ships to use as surge sealift and in the pre-positioning fleet. DoD has also encouraged Congress to pass government legislation that

will ensure a viable commercial shipping industry and ensure commercial capacity for the military during times of crisis.

## **B. STRATEGIC SEALIFT ASSETS**

### **1. Background**

As of February 1997, DoD's surge sealift fleet includes 95 ships, can carry more than seven million square feet of cargo, and is required to be readied in 20 days. [Ref. 1, p.23] The largest of the surge sealift ships are operated by the Navy, while the majority of sealift capacity is maintained by the Maritime Administration (MARAD) and called the RRF.

### **2. U.S. Navy**

"Prior to the Persian Gulf War, the most common type of military ship available was the breakbulk ships." [Ref. 1, p.24] Advantages of breakbulk ships include having their own booms, cranes, and winches to off-load equipment which allow them to operate in ports that lack modern facilities. Disadvantages include older steam engines, longer on/off-load times, and smaller sizes of ships.

The preferred vessel for transporting military cargo is the roll-on/roll-off (RORO) vessel. RORO ships provide easy access for wheeled and tracked vehicles as well as a variety of cargo. With a system of ramps, vehicles and cargo can be driven into place and quickly secured for sea, or quickly unsecured and off-loaded for use.

With the rise of the container ship in the U.S. commercial shipping industry in the 1980's, DoD began purchasing a surge sealift fleet with RORO capability. The Navy's eight Fast Sealift Ships (FSS) were purchased from Sea-Land Services and converted into Navy vessels. They comprise 20 percent of DoD surge sealift capacity and can be activated within four days. FSS are 950 feet long and hold both containers and roll-on/roll-off cargo. They have an average speed of 27 knots with a maximum of 33 knots. They hold 150,000 square feet of cargo and 188 TEU containers. [Ref. 1, p.25] During Operations DS/DS, the Navy's FSS made 32 voyages, while seven of the FSS transported over 13 percent of all unit equipment for the operation. [Ref. 8, p.116]

Since 1993, DoD has been purchasing LMSRs for surge sealift capacity. These vessels have almost twice the capacity of the FSS. DoD plans to purchase 19 LMSRs. Eleven (11) LMSRs will be operated by the Navy and will be added to the four day reduced operating status. The remaining eight LMSRs will be used to pre-position Army equipment. [Ref. 1, p.26]

### **3. Ready Reserve Force**

After World War II the United States held a vast reserve of "Liberty Ships." The Merchant Ship Sales Act of 1946 authorized the activation and maintenance of a government owned merchant ship reserve fleet. The excess capacity was sold to industry and the ships not sold were kept by the government. These ships established the National Defense Reserve Fleet (NDRF) to provide supplemental shipping capacity during a crisis. [Ref. 12]

The NDRF was underutilized during the crises of the 1950's and 1960's (Korean and Vietnam Wars). As a result, from 1945 to 1979, the NDRF shrunk from approximately 1860 ships to 318 ships. Additionally, MARAD was formed in 1950 to manage the NDRF during peacetime. [Ref. 13]

The RRF emerged in 1976 when the Navy and MARAD agreed to select ships from the NDRF that could be activated within 5-20 days to meet emergency sealift requirements. Funding for the RRF has been DoD's responsibility, through the Military Sealift Command (MSC), while management has been the Department of Transportation's (DoT) responsibility through MARAD. [Ref. 12] In 1985, disputes emerged about funding utilization in a hearing before the Committee on Government Operations. [Ref. 12] The problems that were brought to light before the committee surfaced during Operations DS/DS.

In August of 1990 the RRF had 96 ships; 78 ships were activated for the Persian Gulf War. Unfortunately, only 25 percent met their assigned readiness goal. Reasons for missed goals were (1) inefficient management by the contracted managers and MARAD staff and (2) the high cost of providing for maintenance of maritime vessels. [Ref. 14] The contracts and maintenance received little attention before the war and resulted in major problems. Adding to inefficient management was the dispute over control of the RRF. MSC did not approve of maintenance contracts purchased by MARAD; because MSC funded RRF acquisition and maintenance, disputes took center stage instead of fleet readiness.

As of May 1996, there were 92 ships in the RRF, plus two roll-on/roll-off ships to be added after upgrading. The RRF includes 31 ROROs which make up 40 percent of DoD's surge sealift capacity, another 37 percent of DoD's surge sealift capacity is comprised of breakbulk and barge carrying vessels, and the remainder of the RRF is made up of special purpose vessels such as auxiliary ships (stores), fuel tankers, and troop carriers. These ships comprise three percent of DoD surge sealift capacity. [Ref. 1, p.27]

MSC intends to expand the RRF from 92 to 142 ships. Several RRF ships are active and participating in Naval operations, with all active ships meeting their readiness goals. In fact, the RRF has demonstrated the capability to meet 4 day operational readiness goals which exceeds DoD's mobility capability at bases and infrastructure. [Ref. 14] In the past, DoD has been criticized for overstating the need for the initial surge requirements and ignoring commercial ships and the Marine Pre-positioned Force.

#### **4. Commercial Shipping Industry**

Currently, over 90 percent of all globally transported goods are sent by commercial shipping; yet over the past century the United States' share of that market has been in steady decline. Validating this point is a long list of U.S. government mandates that help make U.S. flag ships the most expensive to operate. This has stymied growth and contributed to U.S. commercial shipping's decline. The high operational costs are attributed to four areas: crew, regulations, insurance, and taxes. [Ref. 11, p.33]

The Lafollette Act of 1915 was the first regulation to contribute to high operating costs. The Lafollette Act required that at least 75 percent of the crew of a U.S. flag vessel

be able to speak English. It has allowed for a continued disparity in the wages U.S. mariners receive compared to foreign seafarers. [Ref. 11, p.33]

Initially U.S. firms affected by higher operating costs sought subsidies. Congress reacted kind, initially by providing “a range of subsidies (The rationale for the subsidies has been, if needed, to provide a naval auxiliary.)” [Ref. 11, p.34] Even in the infancy of maritime regulation Congress realized the need to support the U.S. maritime industry, both as a means to remain competitive, and to maintain a supplemental DoD auxiliary force. Previous subsidy contracts mandated “(1) Various portions of government-generated cargoes being reserved for U.S. flag carriers, and (2) Operating Differential Subsidy (ODS) contracts.” [Ref. 11, p.34] ODS contracts compensated carriers for the cost differentials between U.S. operators and their competitors. However, all ODS funds expired in 1997, as a result of the Maritime Security Act (MSA).

Unfortunately, ODS and other subsidies have failed to be mutually beneficial to both DoD and U.S. flagged carriers. The major portion of government generated cargoes have been for military troop support. Those cargoes have been completely reserved for U.S. carriers. “Because of the draw-down of the U.S. military from its foreign bases following the collapse of the Soviet Union; in 1993, those cargoes were about 60 percent of Pre-Gulf War levels, and are expected to continue to decline.” [Ref. 11, p.34] The MSA establishes a replacement program for these lost subsidies.

Even after passing MSA, the shipping industry remains plagued with inequities that maintain high operational costs. The Tax Reform Act of 1986 was a clear example of how Congress hinders the U.S. maritime industry. “The Tax Reform Act of 1986 repealed tax

deferral for shipping income earned outside the U.S. by U.S. controlled, foreign corporations.” [Ref. 11, p.34] For most U.S. controlled foreign corporations, earnings are not subject to U.S. income taxes until the earnings are received as dividends by the U.S. parent corporation. In 1975, tax laws made the earnings of U.S. controlled foreign shipping companies subject to income taxes in the year in which they were earned; the tax was deferred if the earnings were reinvested in shipping assets. [Ref. 11, p.34] The Tax Reform Act of 1986 repealed the deferral. Therefore, the income taxes imposed on U.S. owners of foreign ships lead to further competitive disadvantage because any reinvestment into the company must be made in after tax dollars. The Tax Reform Act of 1986 seemed to be motivated by Congress’ hope to increase tax revenue for the federal budget. It may have increased revenues, but at a great cost to shipping company reinvestment. Even as the high costs of manning U.S. ships has forced U.S. firms to re-flag their vessels out of the U.S. as a means of more cost effective operations, Congress has effectively found a way to reduce revenues of U.S. ships under foreign flags through mandates.

Another regulatory mandate that has further hindered the U.S. maritime fleet has been the high cost of maintaining vessels under U.S. Coast Guard regulations. Coast Guard regulations affect ship design and ship operations. In May 4, 1994 testimony presented to the Senate Subcommittee on the Merchant Marine, the leaders of the major U.S. flag companies contended: “Coast Guard vessel rules increase costs of acquiring new vessels roughly five percent while ongoing cost differentials between Coast Guard requirements and international norms approximate \$100,000 per year per vessel.” [Ref.

11, p.41] This is a huge disadvantage for operators of U.S. flag ships with little or no safety benefit.

Worker compensation is another area in which regulations have contributed to the high cost of operating a U.S. merchant ship. Workers compensation laws do not apply to seafarers. When accidents occur, they are adjudicated in the admiralty courts before juries. The results of settlements in the U.S. courts have been significantly higher than those under worker compensation. This has led to “greater annual insurance premiums of about \$350,000 for a U.S. flag container vessel rather than approximately \$250,000 for comparable foreign flag ships.” [Ref. 11, p.40]

The final area that has helped keep the U.S. flagged ships at a disadvantage is the cost of having repairs done overseas. When repairs were accomplished overseas, whether due to catastrophe or scheduling, “at the first U.S. port of call following repairs completed in a foreign shipyard, 50 percent valorem taxes are assessed by U.S. Customs Service on the cost of the repairs.” [Ref. 11, p.40] U.S. operators continue to use foreign yards despite the tax because U.S. shipyards have been about twice as expensive as the foreign yards.

## **C. GOVERNMENT LEGISLATION FOR STRATEGIC SEALIFT**

### **1. Maritime Security Act of 1996**

The Maritime Security Act (MSA) of 1996 was signed into law by President Clinton on October 8, 1996, and was hailed as “one of the most important maritime legislation enacted in a quarter of a century.”[Ref. 3, p.8] The overall purpose of this law

is to ensure that the U.S. will have sufficient U.S. flagged merchant vessels to augment the U.S. armed forces' requirements for sealift during times of conflict or war.

The MSA is designed to replace the Operating Differential Subsidy (ODS) program. The ODS was a program in which funds were made available to compensate carriers for the cost differences between U.S. operators and their major competitors on designated trade routes. All ODS contracts expired at the end of calendar year 1997.

The "MSA authorizes a 10-year, \$1 billion program with vessel payments capped at \$2.1 million per vessel per calendar year." [Ref. 5, p.49] Slots were authorized for 47 American owned, American flag and American crewed vessels to enroll and participate in the Maritime Security Fleet.

Within the legislation, the rules of participation provide that U.S. flagged vessels of 15 years age or less, owned and operated by U.S. citizens and crewed by U.S. citizens, are eligible to apply for operating agreements under the new program. Vessels under ten years of age, operating under a foreign flag, can also apply for an agreement, but if accepted into the program, must be operated under the U.S. flag with U.S. crews.

The MSA further stipulates that companies selected for and operating under the new program, may only operate such vessels in international commerce and not in the domestic U.S. coastal trade. Additionally, vessels will not be required to operate under essential trade route restrictions, but may instead follow the cargo without obtaining government approval. Vessels participating will be required to enroll into an Emergency Preparedness Agreement with DoD, and to make available to DoD their vessel and non-vessel resources, terminal facilities and intermodal systems, equipment and management

services. Participants may replace an older vessel under the U.S. flag with a newer vessel without obtaining government approval; they may own and operate foreign-flag feeder vessels not calling at U.S. ports without obtaining government approval; and they may operate a U.S. flag liner vessel over the age of 25 years built with the aid of the Construction Differential Subsidy in the coastal trade.

The final stage was to implement the MSA in concert with the major participants, which included DoD and, in particular, the U.S. Transportation Command (USTRANSCOM). During this stage, the proper mix of vessels to perform global functions was determined. A diverse mix of vessels was approved by USTRANSCOM prior to taking any applications for the program. The criteria for selecting applicants were: intermodal system capacity, magnitude of commercial transportation resources, diversity of tracking patterns, commercial viability, operator experience and vessel size, type, and military utility. [Ref. 16] The bottom-line was that applicants seeking to participate had to prove themselves both reasonable and responsible.

The goal of the applicant screening under the specified requirements was to give the Maritime Security Fleet a make-up that best utilizes U.S. maritime assets to properly enhance and give DoD the immediate capability not only to satisfy sustainment requirements but also to fill gaps in surge capability.

## **2. Maritime Security Program**

The Maritime Security Program (MSP) is designed to provide assistance for U.S. flag operators and vessels that meet these criteria stated above. The MSP also requires

the Secretary of Transportation to encourage the establishment of a fleet of active, militarily useful, privately-owned vessels to meet national defense and other security requirements, while maintaining an American presence in international commercial shipping. Thus, it is closely related in purpose to the Merchant Marine Act of 1936. That law stipulated that the United States “shall have a merchant marine sufficient to carry its domestic water-borne commerce and a substantial portion of the water-borne export and import foreign commerce of the United States... and (be) capable of serving as a naval and military auxiliary in time of war or national emergency.” [Ref. 5, p.48] Three (3) benefits that come from the MSP, besides national defense and international trade, are increased shipper flexibility, a decrease in regulation and substantial cost savings.

MSP differs from its predecessor in terms of its reimbursement structure. Under the former Sealift Readiness Program (SRP), commercial vessels received operating subsidies via the ODS program, but these subsidies were targeted at salaries; MSP provides more flexibility to commercial carriers because under the agreement MARAD can pay up to \$2.1 million per year, per vessel, as a flat fee. This fee can be used for anything, with the exception of governmental lobbying, not just salaries. As a result, carrier flexibility is improved; the flat fee also serves as an incentive for better collective bargaining agreements since the subsidy is no longer tied to salaries.

According to the head of MARAD, VADM Herberger, USN, Ret, “MSP is different from the old ODS program not just due to the reimbursement format but because MSP is deregulatory in nature, removing from the former program outdated trade route restrictions and fixed numbers of sailings.” [Ref. 17, p.12] Under the ODS program, for

example, if an operator wanted to transfer a subsidized vessel to a new trade line, it had to apply for governmental authorization. This was a lengthy, time consuming process. In contrast, the MSP provides participating companies with the flexibility needed to operate in worldwide trade routes and also ensures that a U.S. flag transportation presence will be maintained in international commerce.

Owners of vessels accepted into the MSP and receiving authorized payments are required to sign into an Emergency Preparedness Agreement (EPA) which obligates the owner to participate in the Volunteer Intermodal Sealift Agreement (VISA) program. The payment is restitution for the increased cost of maintaining a ship under both U.S. registry and VISA conditions. Although costly, "MSP is about half as expensive as the expired ODS program, which had provided approximately \$4 million to 53 vessels annually for a total cost exceeding \$200 million, approximately twice the cost of the MSP." [Ref. 6, p.12] Furthermore, if DoD were to attempt to replicate the sealift capacity with organic assets some experts would argue that it would cost up to "\$800 million annually." [Ref. 17, p.10]

### **3. The Volunteer Intermodal Sealift Agreement (VISA)**

#### **Background**

The U.S. maritime industry hoped that the lessons learned from Operations DS/DS would lead to new programs to encourage investment in U.S. flag shipping. Approved on "January 30, 1997 by Defense Secretary William S. Cohen, VISA was one of the most significant developments to arise from those lessons learned." [Ref. 10, p.88] It parallels

the existing DoD program to integrate civilian aircraft into the Defense Transportation System (DTS). This program is called the Civil Reserve Air Fleet (CRAF). Like CRAF, VISA will be implemented in three stages, with the final stage being implemented only during times of gravest national crisis.

VISA is designed to create close working relationships among MARAD, USTRANSCOM and industry participants through which contingency needs and the needs of the civil economy can be met by cooperative action. During contingencies, participants are afforded maximum flexibility to adjust commercial operations by Carrier Coordination Agreements (CCA), as stated by applicable law. A CCA is an agreement between carriers that helps meet the needs of DoD while minimizing the disruption of carrier service to the civil economy.

VISA has been developed over the past two years as a parallel initiative with the congressionally approved MSP. It was created following extended negotiations between MARAD, USTRANSCOM, and ship operators. Mutually dependent, MSP and VISA are linked by MSP's requirement that its participants enter the Emergency Preparedness Agreement with DoD. This agreement stipulates that VISA is the means of coordinating all participating assets.

VISA provides DoD with assured access to the U.S. maritime industry's leveraged capacity overseas in times of need. One advantage of VISA over the eliminated ODS program and Sealift Readiness Program is that it will utilize participating assets along routes of convenience, or simply use those vessels with routes to the area of conflict. This will greatly reduce the impact on a civilian firms' operations, and reduce the cost of

participation. In this manner, "DoD also gains access to the U.S. carriers' multi-billion dollar intermodal base and access to U.S. carriers' global partnership capacity." [Ref. 16, p.6] The keystone of VISA is, that for the first time, it brings the carriers into the DoD planning process. DoD also secures on-demand services with a seamless transition from peace-to-war. Finally, it avoids the costly acquisition and maintenance costs associated with an organic capability, and gains the added benefit of new technology from the private sector as participating ships are modernized by their commercial owners.

VISA is a joint DoD and industry development that replaced the 1971 Sealift Readiness Program (SRP); SRP was designed to resupply 10 divisions in 10 days to defend Europe. SRP was deemed outdated and incapable of meeting today's perceived doctrinal threat of two simultaneous MRC scenarios. [Ref. 10] VISA was designed with that notion of meeting the new littoral vision of two simultaneous major conflicts in two different locations. The key characteristics are: (1) contractual commitment by participating U.S. flagged vessels; (2) DoD/DoT/industry Joint Planning Advisory Group (JPAG), a requirement for civilian carriers to pool and team; (3) providing DoD with a seamless transition from peace to war; (4) providing a linkage to peacetime DoD business; (5) allowing DoD access to full intermodal capability; (6) a time phased agreement with three stages of activation; (7) providing the participating vessel with risk based compensation that considers the permissiveness of the environment; (8) providing DoD with increased readiness for quick response.

Every carrier that commits by contractual agreement to participate in VISA will "clearly commit U.S. flag capacity and assure the U.S. armed services access to American

ships, and permits the limited use of foreign-flag ships when U.S. flag vessels are not available." [Ref. 5, p.50] Thus, the payments to U.S. operators participating in this sophisticated transportation program are highly leveraged and make many additional ships available to DoD when commercial shipping is needed to meet contingency requirements.

The firms and the number of vessels committed as Marine Security Contractors are:

American President Lines	9 Vessels
Central Gulf Lines, Inc.	3 Vessels
Waterman Steamship Corp.	4 Vessels
Crowley American Transport, Inc.	3 Vessels
First American Bulk Carrier Group Corp.	2 Vessels
Farrell Lines Inc.	3 Vessels
Lykes Bros. Steamship Co., Inc.	3 Vessels
Maersk Line, Ltd.	4 Vessels
OSG Car Carriers, Inc.	1 Vessel
<u>Sea-Land Service, Inc.</u>	<u>15 Vessels</u>
<b>Total</b>	<b>47 Vessels</b>

[Ref. 3, p.9]

### **The Joint Planning Advisory Group (JPAG)**

The JPAG meets quarterly to review the final concepts of operation (CONOPS) developed during the previous two group meetings to ensure that commercial sealift and intermodal shipping services/systems meet contingency requirements. It also informs the

carriers on any upcoming DoD peacetime exercises. The JPAG is normally conducted in two sessions: Classified and Unclassified.

The JPAG consists of designated representatives or co-chairs from MARAD, USTRANSCOM, each contracted participant, and maritime labor. Other attendees may be invited at the discretion of the co-chairs as necessary to meet JPAG requirements. Representatives provide technical advice and support to ensure maximum coordination, efficiency and effectiveness in using participant resources.

In its planning process, the JPAG identifies and discusses DoD peacetime and wartime sealift service and resource requirements. It attempts to match operational plan (OPLAN) requirements with commercial capacity of contracted participants. Additionally, the JPAG recommends CONOPS to meet wartime requirements to help contracting officials establish "contracts, and develop Carrier Coordination Agreements (CCAs) as needed by DoD requirements." [Ref. 16, p.9] Formalized agendas for working meetings are scheduled well in advance to ensure that all issues of concern are addressed and ratified.

To ensure a successful JPAG, a detailed Letter of Instruction (LOI) is drafted and approved for dissemination by USTRANSCOM. In the LOI is a detailed description of participant requirements and responsibilities. A typical list of key players and listed responsibilities are as follows.

USTRANSCOM/TCJ5 (logistics) co-chairs the JPAG with MARAD. In coordination with the Volpe Center/Stanley Associates (civilian contractors) team, USTRANSCOM/TCJ5 presents the sealift CONOPS for a pre-designated area of

operation. The presentation provides all key assumptions that were used in developing the requirement and an overview of the movement requirements by week. It also provides the JPAG with movement requirements, including the cargo type (ammo, general cargo, vehicles, etc.), quantity (TEUs, FEUs, measurement tons, square feet or short tons), port of embarkation, port of debarkation, and other data. It collects, verifies, and analyzes recommended applications of sealift capacity to meet DoD requirements and develop CONOPS. Finally, it provides JPAG carrier participants with status of capacity recommended during the JPAG requirement shortfall, and in coordination with MARAD, MSC, and MTMC, reviews VISA carriers' capacity and routes. [Ref. 29, p.5]

USTRANSCOM/TCJ3 (operations) provides summary briefings on potential areas of operations, operational plans and assumptions. In coordination with JPAG participants, TCJ3/J4 provides operational planning and logistical expertise in refining OPLAN requirements. They integrate VISA planning into the operational process for peacetime contingency sealift operations and review carrier proposals for sealift utilization to meet requirements, while identifying issues and concerns affecting implementation, and providing productive feedback to the JPAG forum. [Ref. 29, p.6]

MSC provides operational and planning expertise on implementing CONOPS for Stages I and II (Stages will be covered in the next section) and discusses the charter market, if necessary. MTMC provides operational and planning expertise on implementing of CONOPS for Stages I and II. They also provide expertise and clarification on using liner services.

MARAD hosts and co-chairs the JPAG. They provide the appropriate facility and administrative support for the JPAG. MARAD discusses and provides procedures for using waivers and backfill approval, commercial economic impact of Stages I and II, statute/law applicability, and Stage III procedures for sealift allocation and priorities. They also verify status and committed capacity of subsidized MSP carriers.

VISA sealift carrier participants review the VISA Lift Profiles provided at the JPAG and recommend other options in meeting DoD requirements, as appropriate. They provide and discuss information on their current intermodal capacity (to include foreign flag capacity and peacetime business routes and review DoD and carrier-developed CONOPS for meeting those requirements, as applicable (on route, on route/off service, off route, CCAs). Finally they extend to the JPAG their operational expertise in analyzing the CONOPS.

The Volpe Center/Stanley Associates team provides on-site facilitation, coordination, record keeping, and data support, as required, under the current USTRANSCOM contract.

Once the duties and responsibilities of all participants have been determined, USTRANSCOM will draft a tentative schedule of events (SOE) for the upcoming JPAG. A typical SOE may be as follows: USTRANSCOM will present and discuss the current CONOPS for the pre-determined areas of interest and associated OPLANS. Sealift requirements for those areas under the CONOPS and OPLANS will be defined and provided in the following levels of detail: Total sealift requirements flow under each scenario's time lines for Stages I and II, and sealift requirements by specific type (TEU,

FEU, etc.). Then carriers will confirm their ability to provide the capacity needed to meet specific SPOE, week, and quantity movement requirements. Carriers may propose alternative methods of optimizing capacity use. Stanley Associates will incorporate, review, and analyze the carriers' inputs to develop the final CONOPS to meet DoD requirements. Proposed changes to the OPLAN CONOPS will be reviewed to show the total recommended capacity and requirement still remaining (i.e., shortfall). These results will be published in after action reports (AARs) and will form the basis of the following quarter's JPAG. On the final day of the JPAG there will be a wrap-up that discusses the CONOPS issues that need to be addressed, along with a overall review of the JPAG events. To close the JPAG, USTRANSCOM will provide an unclassified overview of any upcoming sealift related peacetime exercises.

### **Activation**

VISA may be activated at the request of USCINCTRANS, with the approval of the Defense Secretary, as needed to support contingency operations. Activating voluntary capacity commitments to support such operations will be in accordance with pre-negotiated contingency contracts between DoD and the contracted participants.

Upon approval of an activation, USCINCTRANS will notify the Maritime Administrator of the activation and its stage. The Administrator notifies the Attorney General that DoD has approved a VISA activation of a particular Stage to meet DoD contingency requirements.

Throughout the activation process, DoD may request volunteer sealift from firms not participating in VISA. However, first priority for utilization will be given to contracted participants who have signed Stage I and/or II contracts and are capable of meeting the operational requirements. "Any contracted participant volunteering their capacity in support of contingency operations may, formally request, through USTRANSCOM, that the volunteered capacity be credited to their contracts." [Ref. 17, p.11]

The stages indicate percentage of space to be made available to DoD given the level of contingency. Activation of Stage I will provide DoD with "15% of a participants cargo space. Stage II will afford DoD with 40% and Stage III will allow for 50%." [Ref. 18] In an attempt to minimize the effect on industry, USCINCTRANS will enforce the lowest Stage capacity required to meet contingencies. Stage II will only activate when Stage I will not fulfill the sealift requirements of a given contingency. Likewise, Stage III will activate only when Stages I and II will not meet the sealift needs for a given contingency. In the event that an upgrade in activation is required, the normal activation procedures and notifications are required.

#### **D. SUMMARY**

This chapter examined several areas of sealift: organic, non-organic, surge, and sustainment. Specifically, it looked at Navy assets and the assets of civilian merchant shipping lines participating in the Emergency Preparedness Agreement.

This chapter further examined the evolution of the Maritime Security Act of 1996 and how it has been hailed as the savior of DoD's surge and sustainment sealift shortfalls. Additionally, this chapter described the Maritime Security Program and the Volunteer Intermodal Sealift Agreement and explained how the agreement has benefited both DoD and industry.

As replacement legislation, MSA appears to be an improvement over its outdated predecessors, the SRP and ODS. Furthermore, VISA utilizes lessons learned from past contingencies, and industry participation in the quarterly JPAG to ensure everyone's needs are considered. VISA has increased industry flexibility by decreasing regulation. This has decreased costs of participating in the program and ensures a U.S. merchant presence in the international arena.



## **IV. JOINT ISSUES AND JPAG/VISA ANALYSIS**

### **A. INTRODUCTION**

Chapter IV analyzes two different areas: key joint issues derived from the strategies mentioned in the previous chapters, such as defense planning, budgeting, education and training, and military operations; and the JPAG/VISA process. Since VISA has yet to be activated for a real world contingency, this section will focus on a recent JPAG after-action report and a wargame after-action report titled 'VISA VENTURE'. The analysis will lead to conclusions and recommendations about the proposed research questions in Chapter I.

### **B. JOINT ISSUES**

#### **1. Defense Planning**

Due to the decrease in the defense budget from "\$400 billion in 1984 to \$250 billion in 1997," [Ref. 21] the military has to do more with less. As a consequence of this shrinking budget, all the branches of the Armed Forces have been drawn down to their "smallest numbers since pre-WWII." [Ref. 21] It's logical to expect that within the National Military Strategy, Joint Vision 2010, and the Joint Publications, a tremendous amount of effort is being exerted to emphasize "jointness." It seems, at least on paper, that with smaller branches of the Armed Forces, strength can be maintained by combining the various branches to fight as one.

In addition, Joint Vision 2010 contains the Chairman of the Joint Chiefs' vision of "jointness" with regards to people, organization, training, doctrine, and strategy. Probably the one joint Publication that best expouses the "jointness" gospel is JP 0-2. It talks about "Unity of Effort, Action, and Direction," which means all the services working toward a common goal. [Ref. 30] Thus, there is a strong emphasis on too much "jointness" in the area of defense planning. The actual amount of "jointness" is minimal compared to the exhaustive publications covering the various areas of operations (over 109 Joint Publications in print).

## **2. Budgeting**

The degree of "jointness" in budgeting is more moderate. The Goldwater-Nichols Act of 1986 is one piece of legislation that leads to implemented policy. The Act established the office of the Chairman of the Joint Chiefs of Staff, consolidating the voice of each of the service chiefs.

Having one voice to represent all of the services has reduced service rivalries within the budget process. A quote heard on C-SPAN during a military budget debate enhances this point; "...the only thing worse than having interservice bickering is to have interservice harmony." This "interservice harmony" has arguably enhanced and strengthened the military's position within the budget process by reducing friction between the services. The CJCS, by law, is the voice that represents all of the services in the federal government budget process. This process has enhanced jointness between the service chiefs.

### **3. Education and Training**

Education of service members with respect to “jointness” is limited in all the services except one, the Army. The Army is the largest of all the branches, and, in recent conflicts, has been tasked with providing services ranging from water to fuel to medical and transportation services for all military branches. In discussions with some Army classmates at the Naval Post Graduate School (NPS) it was noted that army officers get joint training as part of their initial officer indoctrination. The Navy has no such training with regard to jointness. The Navy fails to even train on joint Marine Corps and Navy operations. Naval officers learn on-the-job how to conduct joint operations with their Marine Corps counterparts as part of the pre-deployment process.

This analysis relates directly to what was noted in the planning section. The vision and doctrine exists, but they do not seem to be taught nor are they followed. In Joint Vision 2010, education of service members on “jointness” is one of the Chairman’s focal issues. However, “jointness” education seems to only exist across the board for officers of higher pay grades at service war colleges. Traditionally, Unrestricted Navy Line officers get their first joint exposure at war colleges and joint tours at the O-4 paygrade or higher.

With respect to training , “jointness” seems again to be lacking. Within the Navy, for example, only those ships with embarked marines conduct any joint training. However, it has been mandated by the Chief of Naval Operations in 1996 that Amphibious Ready Groups (ARG) with embarked Marine Expeditionary Units (MEU) are to be incorporated with deploying Carrier Battle Groups (CVBGs).

In one of the author's own recent experiences deploying with an ARG, the ARG vessels were not incorporated with the Nimitz Battle Group, as was the directive for all vessels upon reaching the area of operation (Arabian Gulf). This situation may not occur all the time. However, the fact that it did occur on that particular deployment in 1996 can arguably lead one to believe that Group Commanders may not universally adhere to the Joint Publication guidelines for forward deployed vessels.

With respect to all of the services, joint training seems to be minimal. The example of the Navy/Marine Corps was noted earlier. In the combined 21 years of naval service between the authors of this thesis, neither have ever trained with any Air Force or Army units. The fact that all eight years of one of the author's career has been served on amphibious ships at sea (the only ones that train with marines) and has never trained with other services, other than marines, leads one to believe joint training is not universal.

There is good reason for this. Each unit or ship within its perspective service, has its own training requirements and hurdles to overcome to ensure that it meets the service component's "war ready" requirements. In the Navy, for example, each ship goes through the same life cycle from ship yard to deployment. The training requirements differ based on the class of ship and its designated mission. The time requirements are set by a higher authority and must all be completed prior to deployment. This system, in and of itself, reduces the opportunity for joint training. The exception is Amphibious Assault Ships which have joint Marine training worked into their schedules (extra hurdle) as part of their pre-deployment process.

With a reduced number of ships, but the same number of required deployments, the existing system of joint training will not change. Until permanent changes can be made to alter the present system, the Navy will probably never participate in an all encompassing joint training program.

#### **4. Military Operations**

Recent events have showed that the services can operate jointly. This indicates that there is adequate "jointness" with respect to military operations.

Joint Publication 3-0, Appendix A, outlines the nine principles of war. The four that have had a direct and viable impact to "jointness" are: "mass, economy of force, maneuver and unity of command." [Ref. 31] Mass means an overwhelming force. Economy of force means to efficiently deploy forces cost effectively. Maneuver is the ability to get forces where they are needed and unity of command means the ability to operate jointly under a unified commander. The ability to conduct these four principles has been successful in the past.

In Joint Vision 2010, the Chairman brought up logistics, an interesting, exceptionally important, but wrongfully downplayed issue; In Joint Vision, it was noted that "logistical sustainment needs to be a joint venture." [Ref. 22] In the past, logistics would not have been a focal issue within the initial phases of planning an evolution. In reality, logistical sustainment is probably the most important issue to the troops who will be in an area of operation. The ability to sustain troops in a battle with ammunition, fuel,

food and water will not only contribute to troop morale, but will have far reaching implications on the outcome.

In Operation DS/DS, many publications noted that the Army undertook the lion's share of the burden for logistical sustainment. Judging from the outcome, they undoubtedly did a fine job. For example, during the war there were shortfalls in water purification teams. The Army remained flexible and contracted with civilians until adequate water purification teams deployed to the area. However, all branches of the service must take the responsibility to review their doctrine and bear some of the logistical load. Having brought the fact that logistics had not been given adequate consideration to the forefront at all levels of planning one of the most important points the CJCS mentioned in Joint Vision 2010.

The implication that can be drawn about operational jointness from analyzing past successes of recent incursions is that the U.S. armed forces operate with adequate "jointness."

#### **C. JOINT PLANNING ADVISORY GROUP (JPAG) AFTER-ACTION REPORT**

This section reviews and evaluates the effectiveness of after-action results and lessons learned from the quarterly Voluntary Intermodal Sealift Agreement (VISA) Joint Planning Advisory Group (JPAG) conducted 22 - 23 April 1997 at the Air Mobility Command Global Reach Planning Center (GPRC) at Scott AFB, IL. [Ref. 32]

The section is organized into four parts. Section One contains the JPAG overview; concept, purpose, objectives, definition of Concept of Operations (CONOPS), JPAG process, and responsibilities. Section Two covers the preliminary sizing of VISA Stages I and II. Section Three discusses the Concept of Operations (CONOPS) strawman proposal developed by USTRANSCOM and how the JPAG worked the strawman proposal to provide improved contingency support. A strawman is an initial plan that evolves into the CONOPS. Section Four contains the JPAG issues, recommendations and next steps.

### **1. JPAG Overview**

The purpose of the JPAG meeting was to plan how to use the U.S. flag commercial sealift capacity required for the operation and develop a sealift CONOPS. This included integrating the JPAG process into the USTRANSCOM and operational communities' (J3/J4, Transportation Component Commands) deliberate and contingency planning processes.

The JPAG functioned as a modified deliberate planning session to meet the ocean lift portion of a pre-determined area of interest. The area of interest for this particular JPAG was Northeast Asia (NEA). The JPAG initiated a warfighting scenario with commercial U.S. flag ocean carrier capacity using VISA processes and procedures. The scenario did not function as a war game (a war game will be covered in a later part of this chapter). Attendance, as required by law, included representatives from the Department

of Defense (DoD), Department of Transportation (DoT), Maritime Administration (MARAD), industry and labor.

CONOPS are methods by which carriers or carrier teams (under Carrier Coordination Agreements [CCAs]) "...commit their intermodal network and vessel capacity during VISA Stages I and II, to meet DoD contingency requirements." [Ref. 16] CONOPS measure the planned capacity use and throughput over time instead of by calculations based on ship by ship loads. The methods can be described as using an established string of commercial ships that provide a weekly capacity from carrier selected ports of embarkation (POE) to ports of debarkation (POD) to meet DoD requirements for both on and off-route liner operations. Additionally, vessel capacity is to be chartered to meet DoD's requirements. [Ref. 32]

Weekly NEA lift requirements were presented by depot/installation origin, POE, POD, and type capacity (square feet, flatracks, forty-foot containers, twenty-foot containers, and measurement tons). The lift requirements were based on DoD's input and updated by the industry participants.

Carriers evaluated OPLAN requirements and USTRANSCOM developed a strawman plan and recommended ways to improve the CONOPS for VISA stages I and II. Additionally, carriers discussed their individual proposals with DoD and DoT operational and planning representatives and raised issues affecting implementation.

USTRANSCOM and Stanley Associates (contracted firm) collected the carriers' inputs and modified the original CONOPS to depict the updated capacity offered in comparison with the requirements and strawman plan. Issues affecting implementation

were discussed with DoD, DoT, industry, and labor groups for resolution and/or further tasking.

Carriers reviewed the strawman VISA lift profile and provided options to meet DoD's requirements as determined by CCA, including capacity that was on-route/off-route. They also provided and discussed information on current intermodal capacity including foreign flag capacity. Based on their operational expertise they provided improvement recommendations to USTRANSCOM which will be discussed later in the chapter.

USTRANSCOM's operations specialists (TCJ3/J4), MTMC, and MSC provided operational expertise in reviewing carrier proposals and analyzed issues affecting implementation. They also provided expertise in defining the requirements for commercial industry and feedback to the JPAG forum. Based on capacity and requirements, Stanley Associates recorded inputs, tracked requirements, and developed the CONOPS.

MARAD provided sealift and maritime expertise in developing the CONOPS. In coordination with JPAG participants, MARAD evaluated DoD requirements versus carriers' capabilities and civilian cargo requirements, assessed economic impacts, and prepared sealift allocations as required. They analyzed Jones Act capabilities and DoD/civilian cargo requirements and facilitated solutions to meet all requirements while minimizing disruption. They also assisted in developing CCAs and granted cargo preference waivers, as necessary. Finally, MARAD ensured access to MSP capacity for Stages I and II.

## **2. Sizing Assumptions for VISA Stages I and II**

The objectives of the VISA Stage I and II sizing analyses were to reorient planning from an SRP (ship by ship approach) to a VISA (throughput/capacity approach). For purposes of the JPAG, Stage I represented the first week of the OPLAN, and was "15% of each carriers' total U.S. flag baseline." [Ref. 18] Stage II was represented as weeks 2 and succeeding weeks and was "40% of each carriers' total U.S. flag baseline." [Ref. 18] Specifically, the CONOPS was to "...model lift capacity using liner operations, liners with feeders, and charters; and to develop Stages I and II capacity and timing for when the vessels needed to be available for onload." [Ref. 32] The following assumptions were used in establishing the strawman plan:

- a. No volunteer commercial capacity was used. This was done to determine the carriers' ability to place capacity on berths, as required.
- b. The availability of lift was predicated on five days notice/warning.
  - (1) Carrier response time began from the actual location of vessel(s) based on industries' worldwide snapshot.
  - (2) Vessel(s) could begin loading cargo as soon as cargo was available.
- c. Containerization was based on rules established in the war plan (not available due to classification), e.g., no ammunition in forty-foot containers.
- d. Cargo had to meet the following criteria to be eligible for lift by pure liner carriers, i.e., did not include liner vessels under charter or dedicated strings.
  - (1) It must be general cargo; no ammunition.

(2) It must be resupply and sustainment; no unit equipment will be separated from its unit.

(3) It must be containerized or capable of being loaded on flatracks. "A maximum of 200 flatracks (400 TEUs) per vessel was allowed." [Ref. 32]

e. The GDAS model was allowed to select the most advantageous lift between charter and liner capacity.

f. Some breakbulk (Mtons) and some vehicles (sqft) were designated as "flattrackable" and could be moved on container ships if capacity was available.

g. Vessel data and starting points were from JPAGs and VISA Venture in 1996.

h. The GDAS model allowed liners to stay on existing commercial routes and to use feeder vessels to provide relay or transshipment, as needed.

A carrier's nominal (overall) capacity was converted to operational capacity by dividing the carrier's total U.S. flag capacity by the number of weeks to sail one-way to the war. This determined the carrier's average throughput per week.

Nominal Capacity for Stage / # Weeks One-Way to War =

Average Throughput per Week [Ref. 32]

Liner capacity was applied against the OPLAN requirement when commercial routes went to a suitable destination area or when a feasible transshipment point existed on the route. Otherwise, individual vessels were used either as charters or liner service off-route, such as a dedicated ammunition string for DoD.

If a carrier's capacity was expressed in multiple forms (sqft or TEUs), the calculation was based on the one most needed, i.e., sqft capacity vice TEU capacity. The

database capacity information was assumed to be "either - or" rather than a combined total.

VISA requirements were derived from the current, approved NEA OPLAN. After the Joint Flow and Analysis System for Transportation (JFAST) model moved the maximum cargo possible with DoD organic lift (including resailings), the remaining cargo shortfall became the commercial lift requirements.

### **3. The CONOPS Strawman and JPAG Discussion**

Participants received a detailed briefing on the USTRANSCOM-prepared VISA sealift profile strawman plan and instructions on how the carriers could propose changes and improvements to its assumptions and capacity utilization. As previously mentioned, the carriers then analyzed and responded to the proposed strawman plan. While the carriers were working on the strawman plan, government representatives met separately to discuss the process and procedures for a Stage III carrier activation.

After the working sessions, carriers and government participants gathered to review the resulting CONOPS from those carriers present. The ensuing discussion included topics such as the economic impact on the carriers' commercial operations, the impact on government planning assumptions concerning commercial support, and the importance of DoD in ensuring that a carrier's equipment (containers, flatracks, chassis) be returned to the carrier to sustain the carrier's sealift capacity. [Ref. 32]

#### **4. JPAG Issues, Recommendations, and Next Steps**

After much discussion, the participants analyzed the strawman plan recommended changes rather than replace the CONOPS strawman plan with totally different concepts. Carriers identified several significant effects caused by the CONOPS timelines and capacity requirements on their commercial routes, including economic impacts on U.S. ports. Additionally, carriers identified concerns over their vessel and route capacities, which led to a discussion of capacity measurements. The following issues were identified during the JPAG discussions:

- DoD needs to decide how to calculate a carrier's VISA Stage I and II capacity commitment. Calculating VISA Stage I and II commitments for carriers will now be based on a percentage of their total U.S. flag capacity. The calculation needs to be clarified for carriers who have both International and Jones Act capacity and for carriers who have a portion of their capacity under DoD charter.
- USTRANSCOM needs to determine the use of barges (e.g., feeder vessels, docks, long-range carrier) and coordinate with the carriers owning and operating barges to optimize utilization of their assets.
- DoD needs to determine whether to count MSC "long-term" charters toward the VISA commitment, because the carriers involved with VISA want to know the effect of charters applied to their contractual commitments.

- A single DoD agent needs to be identified to establish, coordinate, and maintain a maritime information data base for the government agencies, commercial carriers and military deliberate planners that participate in sealift matters.

- DoD and MARAD needs a standard methodology for measuring carrier capacity, considering such information such as stability and trim information, average DoD container weight in comparison to commercial containers, and other standards. Standardization will ensure all agencies use the same information and reduce ambiguities.

It was decided that USTRANSCOM will take lead on clarifying the baseline for VISA Stage sizing calculations and how to count MSC "long-term" charters as part of the VISA Stage III commitment. In coordination with MARAD, USTRANSCOM will define the standards for expressing carrier capacity and designate the single agent to maintain a vessel database for DoD and DoT to use for sealift planning. USTRANSCOM will also work the CONOPS to see where better carrier efficiency and proportionality can be obtained vice just relying on two or three carriers.

MSC, in coordination with USTRANSCOM, will clarify the terminology concerning "charter" vessels so that planners, operators, and contracting officers all use the same terms. MSC will determine the role of barges (e.g., feeder vessels, docks, long-range carrier) either in peacetime or during contingencies.

#### **D. 'VISA VENTURE' WARGAME**

"VISA VENTURE" was a two day wargame that was conducted on 20-21 July 1995 in the Air Mobility Command Global Reach Conference Center at Scott AFB IL.

The program description and lessons learned are in the Appendix. The wargame tested VISA's ability to meet the mobility requirements of a single MRC while at the same time conducting a lesser regional conflict (LRC). Due to the complexity of the wargame some readers may want to read Appendix A before continuing with this thesis.

'VISA VENTURE' differs from the JPAG in many ways. The JPAG is a joint meeting of the minds to evaluate possible problem areas given the possibility of having to conduct a contingency operation in a proposed area of operation. 'VISA VENTURE,' on the other hand, is an active scenario-based wargame designed to test VISA in as close to a real world environment as possible. Unlike the JPAG, 'VISA VENTURE' incorporated volunteer sealift assets into the war game. As previously discussed in Chapter III, DoD is allowed to request civilian carriers to volunteer their sealift capacity. However, DoD is mandated to give preferential treatment to carriers participating in VISA.

### **1. Issues**

The following were some of the key issues of concern after completing the exercise presented in Appendix A. Those issues that end with a question mark will be answered by the authors based on research. This wargame is somewhat dated having been conducted in 1995, however, it's the most recent available.

One issue involved volunteered capacity and how to select VISA participants to be used if several volunteer for the same requirement; i.e., preference among participants arose during the wargame. This is a tough issue to tackle. There are no guidelines, under the law of participation, to resolve selection criteria for participants wishing to volunteer

cargo space should DoD request it. The issue of fairness comes into play with this issue. Under statutory law, Professor Jan Menker of the Naval Post Graduate School Systems Management Department has stated that "DoD contracts are awarded based on free and open competition." However, does DoD award a contract between competing bidders who are already under a contractual agreement? This is an issue that must be addressed at a convened JPAG.

In the JPAG, if a participant enters into a partnership with another participant or a non-participant, a list of the partnership should be published so MSC does not also charter that same ship. This issue involves efficiency of operation. Participating carriers must be obligated in writing to provide DoD with lists of partnerships. Failure to do so should be an issue of fraudulent practice on the part of the contracted carrier.

A mechanism is needed to reapply contractual capacity to other requirements, especially when capacity is volunteered. For example, there may be a contract to move cargo from the East Coast, but there may be a higher requirement to move material on the West Coast.

There is a potential shortage of non-officer personnel to crew vessels. The labor representative estimated there will be a "200,000 person shortfall worldwide by the year 2000." [Ref. 32]

What is the length of commitment by civilian carriers after activation? Currently this is an issue that has to be hammered out at the JPAG. JPAGs are held quarterly and address different scenarios each time. The focal point on this issue will be the depth and scope of a given contingency.

How is volunteer capacity credited towards Stage I contracts? Volunteer capacity is defined as a prior request by DoD for sealift capacity for a contingency. The request is made to participants and non-participants, with the participants getting priority. Statutory law dictates that once a participating carrier exceeds the 15% Stage I capacity requirement, while participating as a volunteer, they may formally request that they be Stage I activated.

When a VISA participant responds to the Request For Volunteer (RFV), is that participant relieved of their Stage I obligation? No. Any carrier under contractual agreement with DoD to participate in VISA is not relieved of any Stage responsibility. However, as discussed in the previous question, they may request activation.

What happens if everyone has met their 50% commitment and another MRC begins? The VISA process facilitated moving from U.S. flag to foreign flag vessels when there were not sufficient U.S. flag vessels available, using the JPAG procedures and IAW applicable laws. There are insufficient numbers of certain types of vessels, such as ROROs and ammunition ships. The U.S. supplements sealift shortfalls by enticing foreign flag vessels through monetary means.

## **2. Lessons Learned**

- It was determined that MSC will send out Request For Volunteers (RFVs) for U.S. Flag preference during the VISA volunteer period. Priority will go to VISA participants.

- Due to the shortage of U.S. Flag carriers to fulfill MRC requirements, it became evident that breakbulk ammunition-type ships as well as ROROs were not sufficiently available on the world market. Additionally, it was determined that it may take at least five weeks to contract and position foreign flag breakbulk ships to the West Coast.

- Due to the nature of fluctuations in the demand for commercial sealift, seasonal workloads may impact capacity available to meet DoD contingency timelines; it is necessary to adequately define all requirements during JPAGs, and resolve any conflicts.

- There are various methods to assign carriers requirements. The requirements could be passed out via the JPAG, or given directly to the carriers by MSC.

- Teaming/pooling arrangements need to be clearly defined between carriers MARAD, MSC, and USTRANSCOM to ensure complete understanding of capacity providers.

- DoD needs to provide carriers with more details on possible sea ports of debarkation in accordance with OPLAN security policies/regulations. Issues with regard to the permissiveness of the environment should be addressed.

- More cargo detail needs to be provided to the carriers to help them determine containerizable versus breakbulk versus RORO requirements.

- Transshipment of cargo may become a major method for delivering cargo to destination, given carrier's operating routes, vessel sharing agreements, and foreign flag feeders.

- Because of the U.S. Flag shortfalls, there may be a requirement to transship via rail to the East Cost for cargo pickup; this avoids the extra time required to position ships to the West Coast.

- Because of the apparent problems which arose during VISA VENTURE, ammunition requirements should be offered in ship-load lots rather than in small lots; e.g., 100 TEUs.

- A memorandum of Understanding between DoD and DOT is needed to ensure responsibilities and that proper procedures as set forth by law are followed during activation to deactivation.

- DoD needs to better portray how to use DoD organic fleet (RRF, FSS) and the impacts on CONUS and O'CONUS ports (i.e., determine port congestion).

- When time permits convening the JPAG prior to VISA activation can help resolve issues and recommend further courses of action.

- A comprehensive walk through the actual sequence of events involved in activating the various stages of VISA would provide across the board familiarization.

- The process to maintain unit integrity during ocean deployment should be reviewed.

- Due to the inability of VISA participants and volunteer ships to fulfill the wargame's logistical needs, a prototype or test of VISA is needed for at least one year.

- Those participating in the war game recommended revising the VISA document and updating it at least annually as shortcomings become apparent.

## **E. SUMMARY**

Chapter IV analyzed joint issues with regards to current strategy and doctrine. Joint defense planning is minimal when compared to the amount of joint publications covering various areas of operations. Interservice harmony with regards to joint ventures within the budget process has reduced friction between the services. More joint education and training is needed. Based on recent success in Operation DS/DS, military operations can be performed jointly.

Additionally, Chapter IV analyzed VISA's capability to meet logistical mobility requirements by evaluating a recent JPAG after-action report and the wargame scenario 'VISA VENTURE.' The JPAG success lies with bringing all the key players together for the VISA planning process. During this JPAG, several key issues emerged. Carriers' Stage I and II commitments will be based on a percentage of their total U.S. flag capacity. Standardization for carrier capacity and a vessel database needs to be maintained for sealift planning. Several issues surfaced during the 'VISA VENTURE' wargame. There are shortages of U.S. flag breakbulk ammunition ships and ROROs and it may take five weeks to contract and position foreign flag ships. Seasonal fluctuations in the demand for commercial sealift may impact capacity availability. Convening the JPAG prior to VISA activation can help resolve issues and provide courses of action.

## **V. SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS**

### **A. SUMMARY**

Following World War II, the U.S. had the “largest commercial, privately owned merchant shipping fleet in the world. Almost half of the world’s commercial fleet sailed under the American flag.” [Ref. 11] Today, the U.S. merchant marine is in a state of crisis. While the U.S. remains the world’s largest trading nation, its commercial fleet now ranks “sixteenth in size in the world.” [Ref. 16] As the number of ships in the U.S. flag fleet declines, so does the number of civilian seafarers. Without actions to reverse this trend, the U.S. will have to rely heavily on foreign-flag shipping for all imports and exports, and to sustain future military operations.

During Operations DS/DS, the privately owned U.S. flag fleet played a significant role in sealift operations. Approximately

32% of the cargo for those operations was shipped on container and chartered U.S. flag ships, and 47% was shipped on government-controlled U.S. flag ships. All of the U.S. flag ships used during sealift operations were crewed by trained American merchant mariners. [Ref. 33]

The Persian Gulf War thus demonstrated the continuing, modern day importance of maintaining the merchant fleet to meet national security sealift requirements. Congress did take action to ensure those requirements would be fulfilled. That action was the Maritime Security Act of 1996.

The Maritime Security Act of 1996 established a program to retain an active, privately owned, U.S. Flag and U.S. crewed merchant shipping fleet to meet national and foreign commerce needs, and to provide sustainment sealift capability in time of war or national emergency. The MSA has the same underlying principles mandated by the Merchant Marine Act of 1936, which states,

It is necessary for the national defense and development of its foreign and domestic commerce that the U.S. shall have a merchant marine sufficient to carry its domestic water-borne commerce, capable of serving as a naval and military auxiliary in time of war. [Ref. 34]

To ensure a U.S. merchant fleet for wartime or national emergencies, and to retain a pool of qualified mariners to serve on these vessels, Congress established the Maritime Security Program. The MSP replaced the outdated Operating-Differential Subsidy program, removed operating restrictions on participants of the program, and provided reduced payments to vessel operators who agreed to make their vessels available to the SECDEF upon request. Carriers participating in the MSP must sign a contractual agreement with DoD and agree to enter into a Emergency Preparedness Agreement. The Emergency Preparedness Agreement evolved into what is known today as the Volunteer Intermodal Sealift Agreement. Each ship participating in the program receives \$2.1 million per year per vessel.

When signed into law, the MSA expanded the vessel owners' existing obligation to provide sealift assistance to DoD in time of national need. Upon a DoD request, vessel

owners are required to make their vessels, their vessels' capacity, their intermodal equipment, terminal facilities and management services available for sealift operations.

The new National Security Strategy, along with the numerous doctrinal publications derived from this document, have emphasized that the U.S. Armed Forces move toward a more joint way of life. The position of the Chairman of the Joint Chiefs of Staff was inaugurated after enacting the Goldwater-Nichols Act. This consolidated the voices of all the service chiefs into one voice; this has enhanced jointness and harmony between the services. Recent military operations have been successful despite the lack of joint education and training at the warfighter level. However, as jointness continues to become the entrenched policy, and not the exception, so too its effectiveness will become more efficient.

With the increased emphasis on jointness, the Navy has made significant strides in embracing jointness. However, service-unique root incompatibilities exist between the Navy's way of doing business and that of the other services. These incompatibilities are most evident in the educational, operational and doctrinal areas. The Navy must examine these variances to determine whether they still have validity given the new NSS, and whether they still make sense given the recent NDP findings with regard to the NSS. The Goldwater-Nichols Act and the fall of the Soviet Empire have inevitably necessitated cultural change throughout the Armed Forces. The Navy must now shift from towing a cautious line of procedural implementation to an aggressive posture of internalizing

jointness. How the Navy accomplishes this task will determine whether the President's current strategy is successful.

## **B. CONCLUSIONS AND RECOMMENDATIONS**

### **1. Joint Issues**

#### **a. Conclusion: Joint defense planning is adequate**

In recent years the military has found itself having to do more with less. Within military publications, there is a tremendous effort to emphasize jointness. At least on paper, it seems that strength can be maintained through joint defense planning where various branches of armed services fight as one. For example, Joint Publication 0-2 expouses unity of effort, action, and direction which means that all the services should work toward a common goal.

**Recommendation: Shift the emphasis from planning to implementing joint doctrine at the war fighter level**

In reality, actual joint operations are limited compared to the 109 joint publications covering different areas of operations. Efforts must be shifted to ensure jointness gets down to the war fighter level through training, education, and operations.

**b. Conclusion: The joint budget process is adequate**

The CJCS consolidates the voices of all the services into one. This has reduced service rivalries with regard to the budget process. Interservice harmony has enhanced and strengthened the military's position within the budget process and increased the sense of jointness. Notably, the services have a better understanding of each other's requirements.

**Recommendation: Continue toward a joint budget process**

The Goldwater-Nichols Act of 1986 stipulated that military services shift toward a more joint way of life. The services should continue striving for interservice harmony within the budget process. DoD should note the lesson learned; 'together we stand and divided we fall' and relay through all chains of command.

**c. Conclusion: Joint training and education is lacking**

With regards to training, units and ships must meet their service component's "war ready" requirements prior to deployment. This focus reduces the opportunity for joint training. With regards to education, military officers, traditionally, get their first joint education at war colleges and first joint tour at the O-4 paygrade or higher.

**Recommendation: Conduct more joint training operations prior to deployments and begin joint education upon entry into the service**

The need for more joint training operations prior to deployments is a necessity. Service components need to incorporate joint requirements into their "war ready" requirements for deploying units. Should the cost of conducting such exercises prove to be a burden on the current DoD budget, then the emphasis should be on classroom training down to the lowest levels possible. Services components should begin joint education as early in the career path as possible.

**d. Conclusion: Joint military/industry operations can be a success**

During the Persian Gulf War, joint operations through mass, economy of force, maneuver, unity of command, and industry contributions led to the quick and successful outcome of the war. If anything can be drawn from the "jointness" of the operation it would be that the U.S. armed forces can successfully operate in the joint environment.

**Recommendation: Incorporate the U.S maritime industry into the joint logistics planning process**

In Joint Vision 2010, logistics was noted as an exceptionally important, but wrongfully downplayed issue. The NDP recommended that DoD reduce its organic transportation infrastructure in order to reduce costs. VISA supports the NDP recommendation. Additionally, the JPAG (DoD, DoT, and maritime industry) should explore opportunities to expand VISA.

## **2. JPAG/VISA**

### **a. Conclusion: Strategic sealift assets (U.S Navy, RRF, commercial industry) cannot support two MRCs**

Based on the 'VISA VENTURE' wargame, the Maritime Security Program will not support two simultaneous MRCs, given the current number of ships enrolled. Even with a Request For Volunteers from non-participants to meet shortfall sealift requirements, it is clear that one MRC with a simultaneous LRC would require foreign flag sealift to support both requirements.

#### **Recommendation: Expand the MSP to include more participants and deregulate the U.S. maritime industry**

'VISA VENTURE' noted shortfalls in sealift capacity. The NDP recommendation of reducing DoD organic assets will only contribute to the problem. There are two solutions. Expand the existing MSP to include more participants and/or enact statutory laws that deregulate the U.S. maritime industry to reduce the current negative state of the industry.

### **b. Conclusion: The National Security Strategy is not aligned for the appropriate threat**

The National Defense Panel stated that the NSS is outdated and not aligned to the current state of world threats. The NDP argued that given the current force

structure and manning levels, two MRCs could not be supported. With regards to strategic sealift, VISA VENTURE supported the NDP findings. Navy assets, RRF, and VISA participants and non-participant volunteers could not adequately support the two MRC scenario.

**Recommendation: Alter the current NSS to meet the actual perceived threat**

The NDP has recommended that the U.S. re-examine the threat and consider altering the current NSS to be more in tune with the actual perceived threat and current manning levels and structure. The panel views the two MRC scenario as not likely to occur and serves only as a means to justify a larger force in the post-cold-war era. DoD should focus on transitional threats such as nuclear, chemical, and biological weapons, the countries that possess them, and their delivery means.

**c. Conclusion: The 'VISA VENTURE' wargame is a good tool for determining the success of VISA**

The wargame surfaced problems. Specifically, there are shortages of U.S. breakbulk ammunition ships and ROROs. It could take five weeks to contract and position foreign flag ships. Seasonal fluctuations in the demand for commercial sealift may impact capacity availability. Because of U.S. flag shortfalls there may be requirements to tranship via rail from coast to coast.

**Recommendation: Continue to conduct 'VISA VENTURE' wargames**

The 'VISA VENTURE' wargame is a good tool for determining potential problems of VISA. As these problems surface, the JPAG needs to address these issues at the quarterly JPAG meetings. It would be beneficial to conduct 'VISA VENTURE' wargames quarterly in conjunction with the quarterly JPAG meetings.

**d. Conclusion: The JPAG is effective**

The Joint Planning Advisory Group is the monument of VISA. The JPAG implements the Emergency Preparedness Agreement. JPAG brings all the key players together for the VISA planning process. Without the JPAG, VISA would merely be another subsidy program like the SRP.

**Recommendation: Convene the JPAG prior to activating VISA**

It would be beneficial to convene the JPAG prior to activating VISA in order to resolve issues and provide courses of action. DoT, DoD, and industry participants can resolve issues such as reviewing probable contingency operations and identifying which participating civilian assets may be called upon to meet surge and sustainment requirements.

**C. RECOMMENDATIONS FOR FURTHER STUDY**

**1. Strategy**

Thoroughly analyze current manning and determine if the current NSS of two MRCs is the proper strategy given those current levels of readiness. The research should

focus on possible areas of operation and sustainability of forces in those regions. Additionally, research should focus on sealift and airlift capabilities of surge and sustainment logistics for a two MRC scenario.

## **2. Joint Training**

Research the possible shortcomings in joint training by all branches of the Armed Forces. Determine if enough emphasis is being given to this area at all levels of the chain-of-command. Research should focus on the fiscal feasibility of conducting joint operational training, and the feasibility of expanding classroom training in jointness.

## **3. U.S. Maritime Industry**

Conduct further research with respect to statutory laws affecting the cost of operating a U.S. flagged merchant vessel as compared to foreign flagged vessels. Determine the factors that contributed to higher costs, and issues that forced Congress to take the actions they did. Overall emphasis should be on how to reverse the trend that has reduced the U.S. maritime industry to a dismal sixteenth world wide.

## **4. Strategic Sealift**

Examine further JPAGs and any other war game scenarios testing the viability of DoD organic sealift assets, U.S. flagged VISA participating and non-participating volunteer sealift assets to meet strategy requirements for contingency operations. Research should focus on possible contingency operating areas, and probable time lines

of those operations. Additionally, research should be conducted to determine VISA participant's responsibilities to stockholders when operations are long-term.



## **APPENDIX: VISA VENTURE 95**

### **SECTION ONE - INTRODUCTION**

1. PURPOSE. This document provides the after-action results including issues and lessons learned, from the Voluntary Intermodal Sealift Agreement (VISA) wargame named VISA VENTURE 95.

2. REPORT ORGANIZATION. This report is organized into three sections plus appendices.

a. Section One contains the introduction and organization of the After-Action Report.

b. Section Two contains the introduction to the VISA VENTURE wargame, its objectives, and a brief summary of the scenario and events.

c. Section Three provides the analysis of the wargame objectives, observations, and recommendations.

### **SECTION TWO - WARGAME**

1. INTRODUCTION. A two-day wargame game was conducted on 20-21 July 1995 in the Air Mobility Command Global Reach Conference Center at Scott AFB IL. The wargame was introduced the evening before (19 July) at the Scott AFB Officers Club during a working dinner with a background scenario briefing to set the stage for the following morning. The purpose of the wargame was to test the procedures of the VISA document. Attendance included representatives from the Department of Defense (DoD),

industry, labor, and Department of Transportation's (DoT) Maritime Administration (MARAD).

2. OBJECTIVES. The Sealift Readiness Executive Working Group had several objectives to test during the various phases of the VISA activation process. The phases included Movement Requirement Identification, Request for Volunteers, and Stage I, Stage II, and Stage III Implementation.

a. Stage I Implementation.

- (1) Test all vital areas with regard to Stage I activation as applicable by law.
- (2) Determine special off-route requirements and if participant carriers can meet those requirements.

b. Stage II Implementation.

- (1) Test same areas as in Stage I.
- (2) Test procedures to obtain volunteers to meet requirements that cannot be met by the participants prior to activating Stage III.

c. Stage III Implementation.

- (1) Test MARAD/USTRANSCOM procedures to implement Stage III.
- (2) Test rate methodology and contracts for additional capacity.
- (3) Test MARAD procedures for sealift allocation.
- (4) Examine limits of Stage III capacity.

### 3. SCENARIO SUMMARY

a. Introduction. The wargame scenario consisted of a Major Regional Contingency (MRC) and a Lesser Regional Contingency (LRC) played during the January-March 1995 time frame, using FY95 strategic mobility assets as the mobility base force.

b. Description

(1) Major Regional Contingency (DESERT VENTURE). Saddam Hussein, after some of the United Nation sanctions had been lifted, built forces along the border between Kuwait and Iraq. U.S. organic lift was activated; i.e., the Fast Sealift Ships (FSS) and the Ready Reserve Force (RRF). Additionally, the Maritime Propositioned Ships (MPS) were assigned to U.S. Central Command and moved into the theater. However, additional lift was immediately required due to organic lift shortfall for movement of unit equipment, as well as the requirement to move the programmed sustainment and resupply. This MRC drove the wargame from Stage 0 through Stage II. All unit equipment and sustainment/resupply originated from CONUS locations.

a. Unit equipment requirement over first four weeks:

4.6 million sqft.

b. Resupply requirement over first four weeks:

20,400 (TEU) dry containers

5,400 (TEU) flatracks

1,000 (TEU) reefers

c. Ammunition over first four weeks:

12,247 (TEU) containerized

42,685 short tons

(2) Lesser Regional Contingency (ISLAND VENTURE). A pattern of unilateral actions and reactions during the past four months raised tensions in the South China Sea over conflicting claims to the Spratly Islands. The six claimants were China, Philippines, Taiwan, Vietnam, Brunei, and Malaysia. Discovery of a huge oil field in the Spratly Islands intensified the claims, and Vietnam landed forces to reinforce its claim. The Philippine government asked for help from the United States and the United Nations gave approval. This LRC drove the wargame into a second call for volunteers and activation of Stage III.

a. Unit equipment requirement during first week:

252,616 sqft

b. Resupply requirements over first nine weeks:

3,150 (TEU) dry containers

1,044 (TEU) flatracks

c. Ammunition over first nine weeks:

3,807 (TEU) containerized

17,260 short tons

4. EVENT SUMMARY. Several events were planned for the wargame. The carriers developed several innovative solutions to move a majority of the required cargo within a reasonable time frame through the use of their own intermodal systems (to include foreign flag feeders) and various pooling arrangements. The details of the events are listed below.

- a. After the initial volunteer period there were still 1.8 million square feet of unit equipment left over to be moved for DESERT VENTURE. Volunteers were needed to transport this cargo from the U.S. Southeast (SE) to the Persian Gulf (Ad Dammam). The cargo was available in week 1, required delivered date (RDD) was Week 4.
- b. Also, after the volunteer period prior to Stage II, there were 2,396 Twenty-foot container Equivalent Units (TEU) of ammunition left to be moved for DESERT VENTURE. Volunteers were needed to transport ammunition from Military Ocean Terminal~Sunny Point (MOTSU) to the Persian Gulf (Ad Dammam). It was available in week 2, RDD was Week 5.
- c. Requests also came in from U.S. allies for unit movements. Canada requested movement of a mechanized brigade (MECH BDE) from the East Coast of Canada to the Persian Gulf. Egypt requested movement for an armored unit from northern Egypt to the Persian Gulf. U.S. military planners decided to use the returning DOD organic ships for these allied requirements. This action tied up the

ships so they could not be used to carry resupply items after they made their first trip with U.S. unit equipment.

d. The Philippine government requested help from the U.S. in response to the Vietnamese invasion of the Spratlys. All U.S. organic lift was tied up with the deployment to southwest Asia (SWA); thus, there were few assets available to support ISLAND VENTURE. The Maritime Propositioned Ships (MPS) had already deployed to SWA and were not available.

e. Additional lift was required for deployment in support of the Philippines to move the 3rd Marine Expeditionary Force (III MEF) and an Air Force fighter squadron from Okinawa to the Philippines for Operation ISLAND VENTURE. Also, resupply was required for the MEF, the fighter squadron, and the carrier battle group (CVG). The Government issued a second call for volunteers before CINCTRANS recommended VISA Stage III to the Secretaries of Defense and Transportation.

### **SECTION THREE - ANALYSYS**

1. INTRODUCTION. Wargame objectives were reviewed to determine if the objectives were achieved. Some of the observations and recommendations will pertain to the VISA document and some to industry.

#### **2. OBJECTIVES ANALYSIS**

a. Movement Requirement Identification.

(1) Under this objective the procedures to convene the JPAG were tested and the procedures worked. VISA does not require the JPAG to convene prior to executing VISA arrangements. It was clear that given the time sensitive nature of DoD contingencies, a formal JPAG may not be able to convene on a timely basis. Secure communication may be required to discuss requirements/solutions with JPAG members.

(2) USTRANSCOM was able to define and provide DoD movement requirements to the carriers. However, the exact format that the carriers could use to determine their lift capacity requirements must still be developed.

b. Request for Volunteers (RFV).

(1) MSC tested the procedures to simultaneously send RFVs to both participants and non-participants. However, there was considerable discussion as to when the RFV should be awarded. It was agreed not to award the RFV to non-participants until MSC received information from the VISA participants (timeliness is the key issue).

(2) DOD requirements for commercial RORO and break-bulk ammunition capacity quickly exceeded VISA participant (volunteer phase) capacity.

(3) Procedures were tested to evaluate the carriers' responses.

(a) The participants could not provide all of the needed capacity required for the single MRC scenario through volunteers. Stage I had to be requested for activation to meet the requirement.

(b) During the volunteer stage, it was decided that carriers may request Stage I contract activation after they meet their 15% commitment vice trying to determine when they exceed their 150% capacity threshold.

(c) VISA participant carriers agreed that non-participant carriers, including foreign flag, would be used after it was determined by MSC that the U.S. Flag carriers could not meet the requirements under the volunteer phase.

(d) The carriers were creative in some of their pooling and teaming arrangements. In one arrangement, three carriers agreed to work together to move a requirement. In other pooling arrangements, carriers developed a concept of operations and produced capacity that made up for the East Coast unit equipment and container requirement shortfalls.

(e) When they could, the carriers used their own foreign flag feeder ships to backfill their U.S. flag ships that were put against the DoD requirement.

(4) Impacts on cargo preference. There appeared to be no impact on cargo preference. However, the procedures to grant necessary waivers both by MARAD and MSC must be refined.

c. Stage I Implementation.

(1) The procedures to execute Stage I contracts were simulated after Stage I was declared by CINCTRANS.

(2) Stage I capacity was not adequate to meet all movement requirements, especially for RORO and break-bulk ammunition requirements.

(3) The objective to determine if sufficient commercial containers and flatracks were available was not tested, because their availability was assumed as a planning factor given the short duration of the wargame.

(4) Several of the carriers made effective teaming/pooling arrangements to move requirements. Two of the carriers developed an ammunition pooling arrangement to provide weekly delivery of ammunition to the seaport of debarkation (SPOD).

(5) Separate VISA contracts may not need to be developed if the standard Stage I and II contracts are broad enough to satisfy most requirements. If necessary, the contract could be modified for special requirements.

(6) In the wargame, the biggest problems came when the requirements were off-route. The carriers were able to meet the majority of the requirements, but not all, by using their foreign flag feeders.

d. Stage II Implementation.

(1) The same areas were tested in Stage II as were tested in Stage I with essentially the same results.

(2) Several teaming and pooling arrangements were made during the second call for volunteers to help move the requirements left over from Stage II.

(3) After exhausting Stags I and II capacity, over 50 foreign flag breakbulk vessels were contracted by MSC to help lift unit equipment and breakbulk ammunition. This resulted in some late delivery of cargo due to using slower, not readily available foreign flag breakbulk vessels.

e. Stage III Implementation.

(1) MARAD/USTRANSCOM procedures to implement Stage III need to be defined and published. Also, a Memorandum of Understanding (MOU) between the Department of Defense and the Department of Transportation should be developed to clarify the role of each department.

(2) Stage III methodology and contracts were not tested. The role of the JPAG in the contracting process needs to be clarified.

(3) MARAD procedures for sealift allocation were not tested; more definitive guidance is needed.

(4) The limits of Stage III capacity were not effectively tested; however, it was briefly discussed.

### 3. OBSERVATIONS AND RECOMMENDATIONS RELATING TO THE JPAG.

a. Observation: JPAG needs to address the issue of how to reposition contracted capacity to requirements in other locations; e.g., requirement is located on the West Coast but carrier has only contracted to pickup on the East Coast  
Recommendations: (1) Credit volunteered lift against the total VISA commitment regardless off specific contract provisions. DoD makes the decision which carriers it will accept during the volunteer phase; decisions need to take into consideration follow-on requirements; e.g., location of cargo requiring lift. (2) Place language in procedures and contracts that discuss how to modify contracted service with adjusted price. Rationale: Able to more readily move cargo from planned Seaports of Embarkation (SPOE).

b. Observation. Need procedures to pass planning requirements to the carriers. Recommendation: JPAG should meet at least quarterly to review planned requirements, as outlined in the VISA document. Rationale: Through the JPAG the carriers will be able to do advanced planning to meet current requirements.

c. Observation: Situations arose where two or more carriers volunteered for the same requirement. Recommendation: The JPAG establish general guidelines for selecting a carrier that most effectively satisfies the requirement.

Rationale: Cargo should be moved in the most effective manner based on time or cost at the Government's discretion.

d. Observation: VISA participants were not clear on how to respond to a RFV early in the crisis. Recommendation: Procedures must be developed so VISA participants understand how to respond to a RFV during the call for volunteers. Rationale: Clearly defined guidelines will eliminate the confusion over the RFV process.

e. Observation: Procedures need to be developed to allow MSC to track ships that have already been committed to a VISA pooling arrangement. Recommendation: Formalize VISA backfill and pooling arrangements and provide these arrangements to USRANSCOM and MSC for use during the RFV process. Rationale: MSC may not be aware the ship had already been committed under a VISA pooling or backfill arrangement.

f. Observation: Procedures need to be approved to credit (especially the smaller) carriers with their Stage I and II commitment if all their capacity is under charter by the government prior to Stage I need to be defined. Recommendations: Procedures be written into the VISA Document. Rationale: Avoids confusion and potential breech of contract situation.

g. Observation: MARAD's role in Stage III needs to be better defined.

Recommendation: MARAD's role should be defined and published in the VISA document with guidelines for foreign flag waivers, Jones Act carriers, Stage III access and rate methodology, and what principles and priorities will be used to allocate ships. Rationale: MARAD's role must be clearly understood by the government and participants.

h. Observation: Some difficulty was encountered moving cargo off the West Coast, based on cargo volume, timelines, and resulting lack of sealift capacity. Recommendation: Where possible, DoD should review timelines and options to use rail to move some requirements from West Coast areas to the Gulf or East Coast. Rationale: Better distribution of cargo requirement may ease capacity availability.

i. Observation: Crews of foreign flag vessels may not be willing to go into a "war zone." Recommendation: Use the foreign flag partners for backfill and use U.S. crewed ships for the "war zone" deliveries. Rationale: Reduce possible crewing shortages.

#### **4 OTHER COMMENTS:**

a. Several aspects of the wargame went very well:

(1) These included the concept of the JPAcG as the planning tool for taking the movement requirements and developing effective solutions to move these requirements.

(2) Through innovative teaming/pooling of their resources, the carriers were able to provide additional flexibility to meet DoD's requirements.

b. Other aspects of the wargame need work;

(1) Port congestion at both the SPOEs and SPODs was not played; However, it would be a very real concern in an actual deployment.

(2) Military commanders do not want to have their units split up and piecemealed into the war zone. It is critical to his warfighting effort to have the whole unit available in a timely manner.

(3) Equipment (containers, flat racks, etc.) availability was assumed away. In reality, equipment would probably not be so readily available and much time could be lost in obtaining equipment in sufficient quantities to deploy the forces in a timely manner.

(4) The scope of the wargame should have focused on a smaller portion of the VISA document. The next wargame should be a week in duration so more of the details could be looked at in greater depth.

## 5. OVERALL OBSERVATIONS:

a. The synergism of the face to face contact of the carriers' representatives and Government enhanced a cooperative spirit.

b. Insufficient commercial capacity was available to meet wargame surge and sustainment/ammunition requirements. This resulted in shortfalls and late

deliveries. However, the results reinforced the need for DoD Large Medium Speed ROROs and Ready Reserve Force programs to meet early DoD requirements.

c. DoD must continue its programs to containerize ammunition and to better utilize the carriers' intermodal capability. Dedicated carrier capacity to meet ammunition movement requirements may be needed; however, it will require close DOD/carrier prior coordination.

6. OVERALL RECOMMENDATION: Have another wargame to refine the procedures of the VISA document and to play some of the aspects that were assumed away in this first wargame. The wargame could be included as part of the Joint Staff's worldwide Command Post Exercise (CPX) entitled POSITIVE FORCE 96 which is scheduled for early spring 1996, or at some other convenient time. However, another wargame should definitely be held within the next year.



## LIST OF REFERENCES

1. Congressional Budget Office, "Moving U.S. Forces: Options For Strategic Mobility," *A CBO Study*, February 1997.
2. Ferris, Stephen, "Crisis in Strategic Sealift," *Army Logistian*, March-April 1996.
3. Herberger, Albert, "The Maritime Security Act: Fulfilling a Strategic Maritime Imperative," *Defense Transportation Journal*, April 1997.
4. Kelley, Edward, "A New Framework for the U.S. Flag Fleet," *Sea Power*, May 1997.
5. Kesteloot, Robert, "Strategic Sealift Faces Its Third Challenge," *Sea Power*, May 1997.
6. Melvin, Albert, "The U.S. Flag Merchant Marine's Containership Fleet: The Key to U.S. Strategic Sealift," *Defense Transportation Journal*, April 1996.
7. Maritime Administration, "Briefing to Joint Chiefs of Staff Professional Development Program - 97," 1997.
8. Matthews and Holt, *So Many, So Much, So Far, So Fast*. USTRANSCOM, March 1991.
9. Prina and Nolan, "Getting the Word Out, Interview with Maritime Administrator Albert J. Herberger," *Sea Power*, December 1996.
10. "Secretary of Defense Approves Voluntary Intermodal Sealift Agreement," *Defense Transportation Journal*, February 1997.
11. Waterson, Robert C., "U.S. Maritime: Can It Compete," *Transportation Quarterly*, Winter 1995.
12. United States, Congress, "Managing the Ready Reserve Force Ships: Hearing Before the Subcommittee of the Committee on Government Operations," 100<sup>th</sup> Congress, 1<sup>st</sup> Session, November 17, 1987.
13. Harlow, Louis F., "An Analysis of the National Defense Reserve Fleet, the Ready Reserve Force Force Component and their Capability to meet National Emergency," *NPS Thesis*, 1979.
14. United States, General Accounting Office, "Ready Reserve Force, Ship Readiness has improved, but other concerns remain," Washington GPO, November 1994.

15. Kesteloot and Hessman, "What DoD Needs in Time of Crisis, Interview with Maritime Administrator Albert J. Herberger," *Sea Power*, May 1996.
16. Maritime Administration, "Voluntary Intermodal Sealift Agreement; Notice," <http://frwebgate2.access.gpo.gov/c>
17. Prina, Edgar, "Getting the Word Out," *Sea Power*, December 1996.
18. McGinty, Sally, Phoncon, January 18, 1998.
19. Shalikashvili, John, "National Military Strategy," January 1997.
20. Clinton, President William J., "National Security Strategy," May 1993.
21. Cohen, William S., "Report of the Quadrennial Defense Review," 1997.
22. U.S. Joint Chiefs of Staff, "Joint Vision 2010," 1996.
23. National Defense Panel, "Transforming defense, National Security in the 21<sup>st</sup> Century: Report of the National Defense Panel," December 1997.
24. Nixon, President Richard R., *Beyond Peace*, 1996.
25. Brackey, Paul, "The Military After Next," *Washington Quarterly*, April 1993.
26. U.S. Joint Chiefs of Staff, Joint Publication 5-0, Doctrine for Planning Joint Operations, April 13, 1995.
27. U.S. Joint Chiefs of Staff, Joint Publication 1-0, Joint Warfare of the Armed Forces of the United States, January 10, 1995.
28. Mobility Requirements Study, U.S. Joint Chiefs of Staff, June 1993.
29. JPAG LOI, LCDR Sally McGinty, January 1998.
30. U.S. Joint Chiefs of Staff, Joint Publication 0-2, Unified Action Armed Forces, January 24, 1995.
31. U.S. Joint Chiefs of Staff, Joint Publication 3-0, Doctrine for Joint Operations, January 1995.
32. Shea, Tom LCOL, Joint Planning Advisory Group After-Action Report, April 1997.
33. United States Maritime Security Act 1996, January 1997.

34. United States Merchant Marine Act of 1936.



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